THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. 81. NEW YORK, SATURDAY, DECEMBER 13, 1902. No. 24.

ORIGINAL ARTICLES.

MALIGNANT DISEASE INVOLVING THE GALL-BLADDER.

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IN St. Mary's Hospital, Rochester, Minn., from June 24, 1891, to Sept. 23, 1902, 405 operations were performed for all causes upon the gall-bladder and biliary passages, and of this number, 20 or about five per cent. were for malignant disease. While this does not make it a common malady, it is sufficiently frequent to merit careful attention. The true proportion would perhaps be somewhat higher, as cancer of the gall-bladder, like malignant disease of most of the internal organs is slow to be recognized and is often, if not usually, so far advanced as to render even an exploration unnecessary, the character of the trouble being only too manifest on physical examination.

It is a question whether the relative number of cases in which cancer of the gall-bladder and bile passages are found and not subjected to operation would be more than five per cent. of the number of gall-stone patients in which operation is refused, or the true nature of the condition is not recognized. Schroeder, after investigation of the subject, says that 14 per cent. of gall-stone patients suffer at some time from cancer of the biliary apparatus.

This at once brings up the query, as to whether there is an etiological relationship between gall-stone disease and cancer of the gall-bladder. Courvoisier found that 74 out of 84 cases of malignant disease of the gall-bladder had gall-stones. Siegert states that in 95 per cent. of all cases of primary cancer of the gall-bladder, gall-stones are present and adds this most significant fact, that calculi are found in only 15 per cent. of secondary malignant disease of this organ.

Beadles, in the London Cancer Hospital, found that in four cases of primary cancer of the liver, gall-stones were present in all, and in 36 secondary liver cancers, gall-stones were not detected in a single instance. Musser gives the percentage of gall-stones in the cases of primary cancer of the gall-bladder which he found recorded as 69 per cent., but says that in many of the instances in which no stones were discovered it was probable that the calculi had passed. In all of the cases of cancer of the gall-bladder in our own series which were explored, gall-stones were present. Kelynack, in an exhaustive examination of the subject of cancer of the gall-bladder and bile ducts, placed the proportion of primary cancer of the gall-bladder at 75 per cent. of the whole, giving 25 per cent. as the number of primary cancers of the bile ducts.

Kelynack called attention to another noteworthy fact, that cancer of the gall-bladder was at least three times as frequent in women as in men, and this proportion is also true as to gall-stone disease.

Siegert found 79 females to 14 males. Cancer of the gall-bladder is most common between the age of 50 and 60, which is the period of greatest frequency of gall-stones. Sutton states that columnar epithelium from the mucous membrane is the type of the carcinomatous process, but says that in most instances it could not be determined whether its origin was in the mucous glands or the epithelium.

It is to be noted that the cholesterin which forms the chief constituent of gall-stones is also a product of the mucous membrane. Butlin says that the cancerous ulcer is the most common form. Sutton has found general carcinomatous infiltration of the gall-bladder forming a hard thick-walled tumor with a small cavity containing stones, to be the more common variety, and with this latter group could be placed the cases which we have recorded. It will be observed that these two varieties which compose the majority of the reported specimens, not only contained stones, but the primary lesions would suggest at once this probable source of irritation. Other gross forms of malignant disease of the gall-bladder are also found, particularly that type in which a tumor projects into the cystic cavity. The site of origin of cancer in the gall-bladder is usually near the fundus, although a considerable number have been discovered near the opening of the cystic duct. Perforation into the peritoneal cavity has rarely ensued, and general peritoneal infection taken place. The viscera may be found studded with little cancerous growths, causing ascites, or fistulous openings between the gall-bladder and the hollow viscera may occur. The most common method of extension is to the adjacent liver, either directly or through the blood vessels, and to the lymphatic glands lying in the hepatic fissure. So far as we could discover, there has been no recorded case of operation for primary sarcoma of the gall-bladder, although a few post-mortem specimens have been exhibited. Musser found three such cases recorded in the literature.

The following indisputable facts attract attention: First, gall-stones are almost constantly present in primary malignant disease of the gall-bladder and rarely in secondary; second, the relative proportion of gall-stone and malignant disease of the gall-bladder in women and men is practically identical; third, the pathological lesions found are best explainable on this theory; and fourth, the similarity in age frequency. Certainly we are warranted in concluding that gall-

stones are the most important etiological factor in malignant disease of the gall-bladder. As the proportion of cancerous disease involving the gall-bladder and bile tract as to simple gall-stone disease was as one to 20 in the 405 operations upon the gall-bladder and bile passages, the question assumes practical importance, and while I would not wish to say that for this reason alone gall-stones should be removed, it certainly aids in deciding that early removal of active gall-stones, other things being equal, is sound surgery, particularly so as nearly all the mortality-giving complications are the result of delay. In over 250 uncomplicated gall-stone operations, the mortality was less than one per cent.

The diagnosis of primary cancer of the gall-bladder may be easy. As a rule, a hard tumor is to be detected in the region of the gall-bladder, which is not very tender to touch, and unless there is a peritoneal involvement, rigidity of the overlying muscles is not marked. There is progressive loss of flesh and later a carchexia is developed. A nodular tumor becomes apparent as the liver is involved and jaundice from extension to the common and hepatic ducts in the later stages may occur. A previous history of gall-stone disease can usually be obtained. Naunyn says that at least one-half of the cases of jaundice diagnosticated as due to gall-stones, are caused by cancer or complicated with it. In our experience, this is too high a percentage. The jaundice when it exists, is persistent and unchanging, and if a tumor is present which is accompanied by a loss of flesh, which appeared before the jaundice, there can be but little doubt as to the malignant nature of the trouble. Courvoisier long ago pointed out that stone in the common duct was accompanied by a contracted gall-bladder in 84 per cent. of cases and in the latter disease, the jaundice in the early stages is intermittent and often accompanied by occasional chills and fever, due to an accompanying infective cholangeitis.

We have seen a cystic gall-bladder of long standing, due to stone impacted in the cystic duct, give rise to a hard tumor resembling malignant disease, and occasionally such a tumor may result from an adherent gall-bladder shrunken down upon a mass of stones. The local tenderness and history of sudden appearance with the general condition of the patient will usually be sufficient to differentiate. It sometimes happens that even on the operating table it is impossible to say whether a thick-walled gall-bladder is malignant or not. Robson reports a case in which no fluid was found on puncture, but the hardness of the enlarged gall-bladder and the bad general condition of the patient led him to the conclusion that it was malignant disease. Drainage was established and permanent recovery followed. Abbe reports an almost identical case. The opposite mistake may also be made. The following case occurred in St. Mary's Hospital.

Case I.—Cholecystotomy for Gall-stone Disease. Unsuspected Malignancy.—Mrs. J. R., age sixty-four years, admitted to the hospital, Sept. 9, 1901. The following history obtained. For some years patient had suffered from typical gall-stone colic. In September, 1900, had a very severe attack, during which her physician, Dr. Slocumb of Plainview, Minnesota, could distinctly feel the enlarged gall-bladder. This was suddenly relieved and the tumor disappeared. She has lost a great deal in weight and is in constant pain.

Physical Examination.—Patient cachectic, slightly jaundiced, liver dulness indefinite, perhaps slightly enlarged. No tumor could be felt on palpation. Nothing else of importance was noted.

From the history a diagnosis of gall-stone disease was made. On Sept. 10, 1901, through the usual incision, an exceedingly adherent and very thick-walled gall-bladder was exposed. In the small central cavity a few gall-stones were found. One stone was impacted in the cystic duct. The patient was in bad general condition and drainage of the gall-bladder was instituted. Cholecystectomy would otherwise have been done. No suspicion existed that the gall-bladder was cancerous. The condition was supposed to be due to inflammatory thickening. Patient was discharged in three weeks. The relief obtained from the operation was but temporary. The pain returned and a tumor soon afterward appeared and rapidly enlarged, followed later by jaundice and death about four months after the primary operation.

Cholecystectomy is gradually displacing drainage in the class of cases accompanied by marked changes in the wall of the gall-bladder and it is probable that many early cases of cancer will in this way be discovered and removed. Practically all of the unoperated cases die within the year, although a few have been reported in which life was prolonged to nearly two years. Musser says that only a few months of life is to be expected and that this has not been prolonged by operation in the majority of the reported cases. The first removal of the gall-bladder for malignant disease took place in 1887. The number of cases reported is small. Robson had four personal cases of which one died as a result of the operatoin. Butlin collected 16 cases operated upon with 12 recoveries and of these nine died from recurrence on inefficient removal within four months.

The following two cases are of interest in this connection:

Case II.—Cholecystectomy for Cancer of the Gall-bladder. Recurrence after One Year.—Mrs. M. H., age sixty-three years, American, housewife, widow. Admitted to St. Mary's Hospital June 12, 1901, with the following history: For some years has had occasional attacks of cramps in the stomach lasting from a few minutes to several hours and necessitating the exhibition of morphia for relief. For three months there has been a steady boring pain in the region of the gall-bladder extending through to the back.

There has been considerable loss of flesh. In the early history some transient attacks of jaundice followed the spells of pain, although the icterus was never marked. Personal and family history otherwise negative.

Physical examination revealed nothing beyond a deep-seated resistance in the region of the gall-bladder. Diagnosis, gall-stone disease. Operation, June 15, 1902. A thick-walled gall-bladder densely adherent and containing a few small gall-stones in its nearly obliterated cavity. The appearance was suspicious and the gall-bladder was dissected out and drainage established. Discharged in three weeks. Unfortunately the specimen was lost and it was not until the patient presented herself with the subsequent history that the diagnosis was established. She had remained well for over a year. July 2, 1902, began to have a return of the pain and a jaundice developed. An irregular, deep-seated tumor at the site of former operation could be discovered on deep palpation. A manifest recurrence.

Case III.—Cholecystectomy for Cancer of the Gall-bladder. Recovery.—Mrs. T. McD., Irish, married, housewife, aged fifty-six years, was admitted to St. Mary's Hospital June 19, 1902, with the following history: For several years has been subject to attacks of cramping pain in the stomach lasting from a few minutes to several hours. For the past year these attacks have increased in severity and for several months the pain has been more or less continuous accompanied by loss of flesh and some jaundice. The latter symptom has been variable but never entirely absent. History otherwise negative.

Examination.—Patient shows loss of flesh and strength, somewhat jaundiced, pulse 110, temperature, 97½° F. Trace of albumin and considerable bile in urine. Liver dulness increased, no tumor in region of gall-bladder, tender to pressure in the epigastrium and right hypochondriac region.

Diagnosis.—Gall-stones with probable stone in common duct.

Operation.—June 21, 1902, straight incision through right rectus muscle, gall-bladder buried in a mass of adhesions. It is of small size with great thickness of the walls. Stone obstructing cystic duct at its juncture with the common duct apparently compressing the latter. Appearance of gall-bladder suspicious. Cholecystectomy with hepatic drainage through cystic duct. Discharged in 24 days. Specimen shows carcinomatous infiltration.

In a number of instances the adjacent liver has been involved and yet the diseased process was sufficiently localized to permit of resection of the infiltrated parts. The surgical treatment of such tumors has been thoroughly reviewed by Keen, Ferrier and others and personal cases reported. When complicated with jaundice, the mortality is very high. The following case illustrates the condition found in a more advanced case.

Case IV.—Cholecystectomy and Partial Hepatectomy for Cancer of the Gall-bladder Involving the Liver. Recovery, followed by Recurrence.—Mrs. E. R., American, age sixty-five years, was admitted to St. Mary's Hospital of Rochester, Minnesota, April 18, 1900.

History.—She has been in her usual health until within last six months. During this time she has suffered from a boring pain in right side, which of late has become almost constant. Stomach symptoms have been of moderate severity. There has been some loss of appetite and constipation with a decrease of 15 pounds in weight. No jaundice, nor history of colics. Examination reveals a somewhat movable tumor in the right hypochondriac region evidently connected with the liver. The mass has a nodular feel. Exploratory incision April 21, 1900. A carcinomatous gall-bladder involved the adjacent portion of the liver and the cystic duct. There was some infiltration along the common duct and extending to the duodenum, upon which at one place there was a considerable area of adhesions. A few glands in the angle between the cystic and hepatic ducts were infected. The disease was so definitely circumscribed with such slight glandular involvement that the removal of the affected area was decided on. The excision was begun at the common duct, two inches of which was removed with one-half inch of the hepatic duct. The vessels were caught and tied as divided; the area of adherent duodenum the size of a silver half-dollar was included in the excision. The opening in the intestine was closed by circular purse-string suture. The lower end being thus free, the gall-bladder with the attached liver was removed with the Pacquelin cautery knife. The larger vessels were grasped with forceps. The free venous oozing from the liver substance was not controlled by the cautery, although easily checked by slight pressure, the blood current being of little force. A piece of sterile gauze, the size of the wrist, was placed in the cavity and a continuous suture of fine catgut was run through the liver substance on each side of and around the gauze, compressing the bleeding liver margins against it, and efficiently controlling the hemorrhage. The portal vein was exposed to a considerable extent in the bottom of the cavity. Adequate drainage was afforded, the bile being conducted to the surface. Recovery was uneventful. The gall-bladder contained a single stone three-fourths inch in diameter. Patient died four months after the operation from recurrence.

So far as I have been able to discover, all of the cases in which the liver was involved secondary to primary cancer of the gall-bladder have had early recurrence. This is also true of the cases in which the lymphatic glands in the fissure of the liver were infected. Jaundice occurs in about one-half of the cases and as it is a late symptom, operation is contraindicated. The increasing frequency of operation for gall-stone disease will lead to the accidental discovery of cancer in an early stage and the results of operative interference will vastly improve.

SURGICAL VERSUS MEDICAL TREAMENT OF CHOLELITHIASIS.*

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"It is in the nature of things, that when a part of the human body has been made more accessible to the eye and hand by the progress of our science, that the treatment of affections of that part should change from the medical to the surgical, or at any rate from the general to the topical side."

THIS philosophic sentence is quoted from an English work by Sir Felix Semon and exactly states the trend of modern surgical teaching in lithiasis of the gall-bladder. The surgery of the gall-bladder and bile ducts is being elaborated and perfected year by year and Marion Sims' suggestion that gall-stones come within the sphere of the surgeon has been verified beyond expectation by the labors of Mayo Robson, Hans Kehr, Richardson, Murphy, Fenger and many others. With modern aseptic technic, laparotomy has been robbed of its perils and to-day we find many sufferers relieved of the agony of gall-stone attacks by an operation opportunely performed.

In discussing methods of treatment it is well to have some idea of the etiology of gall-stones and their methods of formation. As yet this phase of the disease is open to much doubt and is a fertile field for investigation. It has long been recognized that the precipitation of bile products upon a nucleus was the starting point in the disease, and this nucleus was supposed to be mucus, epithelium or some other detritus caused by a stagnation of the bile.

Since 1890 the infectious nature of cholelithiasis has received much attention and during 1897 gall-stones were experimentally produced by Mignot, Gilbert and Fournier by innoculation with the bacilli coli and the bacillus of typhoid fever in attenuated culture.

With the experimental production of gall-stones by bacteria and with the frequent finding of micro-organisms, either living or dead within the calculi, the view is gaining ground that "a lithogenous catarrh induced by micro-organisms is the most important single factor of gall-stone formations" (Osler).

Cholesterin is the chief constituent of gall-stones and is formed in the gall-bladder or bile ducts. It is held in solution by the bile salts and under certain conditions precipitates and forming around a foreign body, a micro-organism, etc., rapidly forms a gall-stone in five or six months' time. It is a clinical fact that stones in the gall-bladder are usually of about the same age and chemical composition, pointing to some distinct past disturbance in the gall-bladder.

Bearing these few etiologic facts in mind and remembering the influence which age, sex, sedentary occupations and overindulgence in food have upon the disease, we should be more constantly on our guard to diagnose the condition in its early stages and before the numerous attacks have caused extensive adhesions about the gall-bladder, as well as have excited a pancreatitis. These adhesions occurring most frequently between the gall-bladder and the pylorus, intestines or omentum, especially the duodenum and colon, give rise to various symptoms which complicate the case and cloud the diagnosis.

The treatment of gall-stones at the present time is being largely discussed by both internists and surgeons with much the same arguments as were advanced a few years ago in appendiceal disease. At the present time no physician of intelligence fails to call a surgeon into consultation when he diagnoses a case of acute appendicitis and the promptness with which operation is advised is recognized as determining the mortality of the disease. If this is delayed the disastrous sequelæ of gangrene and perforation of the appendix with a resulting peritonitis occur in the large majority of instances.

In gall-stone disease the same argument holds good. An operation performed while the stones are still in the gall-bladder produces a mortality which is nearly nil, but if gangrene of the gall-bladder takes place, or if the stones become impacted in the common duct, the mortality rises higher and higher even to 25 per cent.

The results of impaction in the common duct are frequently disastrous to the integrity of the biliary passages. Infection of the bile ducts, cholemia, pancreatitis, ulceration of the common duct with fistulæ formation or a general peritonitis may occur. An ulcerative communication between the gall-bladder and a neighboring viscus, particularly the stomach, may take place. If the patient survives the attack extensive adhesions to the duodenum, stomach, colon or omentum may make life miserable. The contraction of the adhesions may cause obstruction of the bowel at any time and the constant irritation of the stones may give rise to a carcinoma of the gall-bladder.

These complications are not met with in isolated instances but are frequently seen by the surgeon at the operating table and many cases are lost, for which the operation is held to account, which are really due to the procrastination of the attending physician. It has been urged in favor of medical treatment in the early stages of gall-stone disease that postmortem records have frequently shown the presence of stones where the clinical history has not given evidence of the fact, and that proper medical treatment should keep the stones at rest and prevent inflammation, thereby avoiding surgical interference.

If a drug could be found which would have a solvent action upon gall-stones, then the surgery of cholelithiasis would sink into oblivion. Since the time when the famous Durande mixture of ether and turpentine was so widely exploited up to the present, various remedies have been suggested which had a solvent action on gall-stones. The so-called saline cholagogues, the salicylate, sulphate, benzoate, phosphate, bi-

* Read before the Southern Surgical and Gynecological Association, at Cincinnati, Ohio, November, 1902.

carbonate and chloride of soda, sulphate of potash and ammonium chloride have all been advocated by various authorities.

Olive oil is held in high repute to the present day as an aid to the passage of gall-stones and, while in the test tube it does cause a loss of weight in the gall-stones, yet there is not the slightest evidence that the oil can reach the cystic duct or the gall-bladder. The oil is said to have an action upon the mucous membrane favoring an increased secretion; but if we accept the view that the expulsion of the stone is due to the efforts of the diseased bile passage to get rid of an offending body, wherein does this efficacy lie?

Mayo Robson states that after an extensive use of olive oil he has never seen much good result from its employment. This is quite in accord with the writer's experience.

The pilgrimage to Carlsbad has been made by many sufferers from gall-stone disease in England and on the Continent, and by those few from this country whose means permit such an expensive course of treatment. It is undoubtedly true that many sufferers from gall-stone colic have been relieved by the Carlsbad waters. The regular mode of living, the soothing effects of the warm medicated waters on inflammatory lesions, the laxative action of the springs and the beautiful surroundings are all conducive to powerful stimulation of the tissues. As Kehr puts it, "The principal material at Carlsbad is the gall-bladder lithiasis of the prosperous class and not the chronic obstruction of the bile ducts." The catarrhal inflammation is allayed and the bile once more flows unimpeded in and out of the gall-bladder. The symptoms have abated, but the disease itself is untouched, the stones remain and, like the appendix, when inflammation has once found a favorable soil it is very apt to recur again.

If the disease passes into the stage of latency, no further trouble resulting, the patient is considered as cured and a triumph recorded for Carlsbad.

Gall-stone colic often occurs again and again until the frenzied sufferer, obtaining relief at first in a single dose of morphia, becomes more and more habituated to its use and soon finds that the hypodermic syringe has become indispensable. This is too often the usual result of medical treatment of gall-stones.

There are many medical men in this country who will oppose early operative interference in cholelithiasis for some years to come, but just as in appendicitis, the evidence of those whose antemortem pathological experience is greatest, will weigh in the balance and decide the future treatment of the disease. Despite the work of Mayo Robson in England a recent publication upon gall-stone disease by J. H. Keay (England), has appeared under the title of "Medical Treatment of Gall-stones." The title, however, is a misnomer as nothing new or startling is advanced from the medical standpoint, while the ulterior purpose of the book is an attack upon the surgical treatment of cholelithiasis. A review of the author's position would subserve no useful purpose, as the arguments advanced against operation are deduced from an experience of three cases, one of them himself, another a relative, and a third a patient and from a perverted view of the statistics of the Registrar-General.

Some of his statements will serve to show what harm such teachings may have upon many practitioners. He admits that the diagnosis of gall-stones in their earlier stages should not be difficult and yet denies the certainty of diagnosing empyema of the gall-bladder and suggesting that the forces of nature are more potent in relieving this suppurative process than a cholecystotomy with drainage. He calmly suggests, "that it is always possible that the stone may perforate the ducts and pass quite safely into the intestines." No thought is apparently given to the dangers of peritonitis from this same perforation. Of chronic duct obstructions he says "that a time will come when, after the complete blockage of the common duct by a stone, life is in serious danger." Of course it is, but should never be placed in such jeopardy by prolonged and useless medication with antiquated cholagogues.

These few abstracts will serve to show the uselessness of the book as an exponent of the modern teaching of the treatment of cholelithiasis.

The surgical treatment of gall-stones will depend upon the situation of the stones, and the presence of such complications as adhesions or biliary infection. When in the gall-bladder if there be but little evidence of disease of the walls indicating a mild infection, cholecystotomy may be performed with careful Lembert suturing of the opening through which the stones were extracted. If suppurative cholecystitis exists a cholecystotomy with drainage is required. Stones in the cystic duct require a cysticotomy and chronic obstruction of the common duct necessitates opening the duct. Calculi become lodged in the common duct according to Courvoisier in four per cent. of cases, according to Robson in 13.25 per cent. When the obstruction is acute in character with intense jaundice, vomiting, chills and fever and violent colic, operation is contraindicated. Sufficient morphia should be given to quiet the intense pain, hot applications applied over the gall-bladder, and castor oil to keep the bowels moving. If the inflammatory condition subsides the stone may pass onward into the duodenum: but if the attacks persist any length of time with fever and rapid pulse and symptoms of cholangitis then choledochotomy should be performed without drainage of the hepatic duct. Should the condition of the patient be so poor that a prolonged operation would cause death, we may perform a cholecystostomy, and later, when the patient is in better condition remove the stone from the duct.

Frequently occurring attacks of infectious cholecystitis will give rise to more or less extensive adhesions, which not only give symptoms

per se, but complicate operation. The presence of an adhesive pericholecystitis can often be diagnosed and is a further argument for operative interference. In addition to the adhesions, the gall-bladder becomes thickened and shrunken in consequence of frequent inflammatory attacks and can never be satisfactorily palpated. If the adhesions are not too extensive such a gall-bladder may be excised, but there is so often such marked adhesion of the structures around the gall-bladder that its removal is difficult and may necessitate extensive gauze drainage. An attempt to dissect it loose from the liver is followed by considerable oozing. The writer is usually satisfied with breaking up the adhesions about the pylorus, duodenum and colon, covering the raw surfaces with "Cargile." The gall-bladder is then opened, the calculi removed and a rubber drainage tube protected by a gauze strip introduced into the gall-bladder. Hydrops of the gall-bladder usually requires a cholecystectomy unless the organ is in good condition, when incision and drainage will give good results. If the hydrops is due to an infection of the gall-bladder and not to calculous obstruction of the cystic duct medical treatment should be tried for a time at least.

Non-calculous infectious cholecystitis should be treated medically so long as the condition shows any tendency to improvement, but in the event of increase in the severity of the symptoms, in spite of the best known medical means, hepatic drainage should certainly be carefully considered. These cases are those most likely to be benefited by the Carlsbad treatment. The question of the diagnosis between non-calculous and calculous cholecystitis is most important and too much stress cannot be laid on a careful history of the case and especially of the previous history, indeed this applies to every phase of cholelithiasis. Cholecystitis occurring in a patient who does not give the history of a previous biliary colic or arising during or after an infectious disease is in favor of uncomplicated or non-calculous cholecystitis.

Carcinoma of the biliary apparatus comes properly under the care of the medical man.

In operating upon gall-stone subjects calcium chloride should be administered for a few days previous to operation, giving 10 or 20 grains three times a day. It seems to lower the time required for the blood to coagulate and thus lessen the risk of post-operative bleeding. The presence of the bile products in the blood has some action, as yet imperfectly understood, which greatly retards coagulation. The writer has lost cases from severe capillary oozing following an otherwise successful operation.

The placing of a sand pillow beneath the back will so arch the liver forward that when the abdomen is opened the liver may easily be drawn out of the abdomen sufficiently far to obtain a better exposure of the biliary passages. Adhesions should be carefully separated and unnecessary handling of the liver, gall-bladder or ducts avoided.

Cholecystostomy.—The gall-bladder is exposed by an incision through the right rectus muscle and excepting in highly infectious cases, is generally freed from adhesions, which when met with usually involve the abdominal wall, omentum, duodenum and pylorus. The gall-bladder is isolated by gauze pads and aspirated of its contents. The puncture is then enlarged and the gall-bladder examined for stones, if present, they may be removed with forceps or scoop. A small piece of iodoform gauze is introduced into the gall-bladder and the opening temporarily closed with an hemostatic forceps. The gall-bladder is then brought into the wound if possible. A piece of gauze is passed around the gall-bladder in such a manner as to allow the lower end of the gauze to protrude from the lower end of the wound and the gall-bladder is sutured to the aponeurotic layer of the abdominal wall. Before tying the gall-bladder sutures the gauze pads are removed, but not the gauze around the gall-bladder. The sutures are tied, the wound above and below the gall-bladder closed, the hemostatic forceps removed, the piece of iodoform gauze taken out of the gall-bladder and a solid rubber drainage tube carried into the gall-bladder. This drains into a receptacle at the side of the patient.

When acute empyema exists it is safer in most cases to merely suture and drain the gall-bladder, not searching for calculi until the danger of infecting the ducts has disappeared. When it is impossible to bring the gall-bladder into a position favorable for its suture to the peritoneum, it must be protected by gauze packing after introducing the drainage tube. Acute infectious gall-bladders should be palpated as little as is consistent with good work, and in these cases the common duct should not as a rule be probed for the presence of a stone.

The so-called "ideal" cholecystotomy, where the opening in the gall-bladder is sutured after removing the stone or stones is an unsafe procedure unless the case be free from infection and the suturing very carefully performed, and, bearing in mind the fact mentioned early in this paper that calculi in most instances are due to bacterial infection, these cases are necessarily few. Homans has reported a case where gall-stones formed around silk sutures twenty months after recovery from cholecystotomy.

Choledochotomy is performed by incising the duct over the stone, removing it and searching with the finger and probe to ascertain that the ducts are clear, this is particularly important. The main as well as the right and left hepatic ducts are to be explored. The wound in the common duct may be closed with Lembert sutures if the integrity of the duct will permit and the field of operation always drained with a gauze strip. If the position of the duct renders suture impossible, or if its coats are infiltrated and friable, a rubber drainage tube should be introduced well into the hepatic duct and carefully surrounded by gauze packing. In certain cases of choledochotomy it is wise to drain the gall-bladder as well.

When calculi are situated close to the duode-

num in the ampulla of Vater the duodenum must be opened in its anterior wall and the opening of the duct laid open from within the duodenum. If no intestinal contents have escaped, a Lembert suture of the duodenum is sufficient, without drainage.

When the common duct immediately to the proximal side of the ampulla of Vater is the site of a stone which cannot be dislodged, the duct may be exposed by reflecting the posterior parietal peritoneum to the outer side of the descending duodenum.

Choledochenterostomy is rarely performed. The writer has never had a case requiring this operation.

Cholecystenterostomy is an operation which should be confined to those cases of obstruction of the common duct due to a malignant growth and in certain cases of stricture and fistulæ. This operation was formerly performed in chronic pancreatitis but has latterly been abandoned for cholecystotomy with drainage.

Postoperative vomiting is frequent in gall-bladder surgery and is often difficult to control. Lavage and the administration of all nourishment by the rectum are the best agents for its control.

Should capillary oozing follow operations on markedly jaundiced patients all treatment usually fails and the patient becomes exsanguinated and death results. Calcium chloride should be administered by the rectum, 30 to 60 grains every four hours—and full doses of opium given.

The recurrence of pain after a successful operation is not due to the recurrence of stones in the majority of instances, but to the presence of adhesions. The latter being ameliorable to operative interference with less risk than that attending the primary operative procedure. The early establishment of peristalsis may prevent the formation of adhesions.

Biliary fistulæ following cholecystostomy persist for a few months as a rule but ultimately close. Continued persistence of the fistula may be due to some obstruction of the common duct. In some cases cholecystenterostomy is the best operative procedure.

Mucous fistulæ may also result from the same operation and are due to an obstruction of the cystic duct. Sometimes a mucous fistula follows a cholecystectomy and is due to continued secretion from "islands" of mucous membrane not destroyed by the operation.

Drugging Babies in India.—The habit of drugging their babies so that they can be left alone is very common in India among mothers who work in factories. In the city of Madras the infant mortality is given as 295 per 1,000.

American Medical Association Notes.—The Local Committee of Arrangements at New Orleans is making progress for the next meeting of the Association. The December number of the New Orleans *Medical and Surgical Journal* reports some interesting meetings of the local committees.

REPORT ON THE CARE OF THE SICK POOR OF THE STATE OF NEW YORK: WITH SUGGESTIONS FOR THE ESTABLISHMENT OF CONVALESCENT HOMES, PSYCHOPATHIC HOSPITALS AS RECEPTION STATIONS FOR THE INSANE AND SPECIAL PAVILIONS FOR THE TREATMENT OF THE TUBERCULOUS INSANE AND EPILEPTICS; ALSO SANATORIA, SPECIAL HOSPITALS, TUBERCULOSIS DISPENSARIES AND AGRICULTURAL COLONIES FOR CONSUMPTIVES DEPENDENT ON PUBLIC CHARITY.*

BY S. A. KNOPF, M.D.,
OF NEW YORK,
CHAIRMAN OF THE COMMITTEE ON RELIEF OF THE SICK POOR OF THE THIRD NEW YORK STATE CONFERENCE OF CHARITIES AND CORRECTION

My first duty is to thank you all for the honor you conferred upon me last year by my election as chairman of this important committee. I consider myself particularly fortunate to have occupied this position during the year 1902, for I do not think there has ever been a year more eventful than the present one in the history of the charity work of this great State. Large sums have been donated to the various charity institutions, devoted to the care of the sick poor; new hospitals have been erected and old ones enlarged or improved, but it would be impossible in the short space of time allotted to me to enumerate all that has been done towards improving the condition of the sick poor of this State during the past year.

In order not to speak of New York City alone I have endeavored to secure direct reports from the respective authorities of the five largest cities of the State. Beginning with the city of Albany, which extends to us its hospitality to-day, I am indebted for the report to Dr. Craig, the Health Officer, who informs me that there has been no change during the past year in the methods of caring for the sick, as far as the Department of Health is concerned; the present method working with entire satisfaction.

The city of Syracuse is divided by its Health Department into four districts, with a physician for each district. Such serious cases among the poor as cannot be promptly treated at home are sent to the public hospitals, of which there are four; for this the city expends annually $15,000.

From the city of Rochester I learned that the Health Department allows $2,500 a year for the care and maintenance of cases of contagious diseases among the poor. There are seven city physicians attached to the Health Department who make daily visits to such of the needy sick as are deserving, after the cases have been investigated by the Poor Department. Outside of the contagious disease cases the Department of Charities provides for the maintenance of the sick poor in hospitals.

Buffalo has 10 district physicians for the care of the sick poor. These physicians are paid by the municipality and medicine is furnished gratis.

* Address delivered at the meeting of the Third New York State Conference of Charities and Correction, held in the Senate Chamber at Albany, November 19, 1902.

Where it is necessary to send the patient to a hospital, this is done through the City Poor Master, and, in the majority of cases, at the request or suggestion of one of the district physicians. Every hospital in the city receives them, and the city pays the bill.

With the exception of the lack of accommodation for the tuberculous poor in these four cities, there seems to be no difficulty in the care of the sick poor, whose numbers are relatively small as compared with those of the great city of New York. The State Hospital for the Consumptive Poor, which we hope will be completed and in running order before this conference meets again, will in a measure meet the necessity of the care of the consumptive poor of the State; of course, inadequately, but it is hoped that if our legislators can once see with their own eyes the great good a State sanatorium can do in the prevention and cure of consumption, they will learn to be more liberal with their appropriation, and facilities for the care of the consumptive poor from all over the State will increase in numbers.

The unsatisfactory condition of treatment and care to which the large number of insane and epileptic poor of this State have been subjected in the past has materially improved, particularly during the last year, thanks to the untiring energy of the State Board of Health and the Commission of Lunacy. I sincerely hope that the numerous excellent recommendations, set forth by Commissioners Peterson and Parkhurst and Mr. McGarr in their recent report, will be carried out, and that the legislature will do its duty. Insanity as well as epilepsy, with our present knowledge of its causes and its pathology, must be classified with preventable and curable diseases, and abundant means should be placed at the disposal of the commissioners to create the best possible facilities for the cure of these unfortunates. By returning to the communities from whence they came, as breadwinners, healthy in mind and body, as large a number as possible of the formerly insane and epileptic, the commonwealth would be the financial gainer in the end.

Among the recommendations which seem to me of particular importance, contained in the report of the State Commission of Lunacy, are small psychopathic hospitals for all the larger cities of the State. These institutions should serve as reception hospitals for all cases of insanity until their character and prognosis has been determined. A division of acute and chronic cases is thus facilitated and a hasty diagnosis with its sometimes sad and fatal consequences avoided.

The other recommendation, which I most heartily endorse, is the separation of the tuberculous insane or tuberculous epileptic from the non-tuberculous mental or nervous sufferer. The urgent reason for such separation must be obvious. All those who have experience with the insane and epileptic know how easily tuberculosis spreads among these unfortunates, particularly when the patients are much confined within walls. There must be special provision for pulmonary cases in all institutions for the insane and epileptic, for only when the tuberculous are separated from the non-tuberculous is it possible to control, even in a measure, the indiscriminate expectoration and, perhaps, also the drop infection (infection arising from expulsion of small particles of bacilliferous saliva during the so-called dry cough, sneezing, etc.). The therapeutic measures, such as open-air treatment, respiratory exercises, over-alimentation, and constant medical supervision, are also possible only when this class of invalids are separated from others. Whether the tuberculous insane or epileptics should live in tents, especially constructed pavilions or cottages, would largely depend upon the climatic and topographic condition of the locality where these institutions are situated. As for myself, I would favor the pavilion plan, with ample verandas for the rest cure, large enough to accommodate from 20 to 25 patients. My personal experience with the tuberculous insane or tuberculous epileptics has been limited, and I do not wish to express an expert opinion on the method of the special treatment of such individuals; but my somewhat extensive experience with ordinary consumptives has taught me that the psychical and mental conditions of the pulmonary invalid improve in the same ratio as his tuberculous trouble decreases. One of the first symptoms in the early recognition of pulmonary tuberculosis is an increased nervous irritability; one of the most favorable symptoms of approaching recovery is when the patient becomes himself again, psychically and mentally.

Leaving aside even the great importance of prophylaxis, the very frequent cures of pulmonary tuberculosis and its concomitant improvement of the mental state should be a great inducement to us to try to cure all tuberculous epileptics and insane.

From a letter recently received from the distinguished superintendent of our Manhattan State Hospitals, Dr. A. E. Macdonald, I learn that an open-air camp for the treatment of the insane tuberculous poor of that institution has been in operation for some time with gratifying results.

The condition of the poorest among the sick poor of the city of New York, that is to say, the inmates of the Almshouse Hospital—a condition which has been most deplorable during the past because of insufficient food and care, has been most gratifyingly improved under the energetic, humane and benevolent reign of the present Commissioner of Public Charities, the Hon. Homer Folks. Another magnificent work accomplished by Commissioner Folks, which deserves mention on this occasion, is the establishment of a hospital for consumptives on Blackwell's Island by the utilization of the buildings vacated by the Manhattan State Hospital for the Insane. This hospital was opened on Jan. 31, 1902, and within one week all the consumptive patients from Bellevue, City, and Metropolitan hospitals, who were not treated in wards devoted exclusively to their care,

were transferred to this new institution. The number of patients received in this hospital from Jan. 31, 1902, to March 31, 1902, inclusive, was 194. While a large majority of the patients received were in the advanced stages of the disease, a small number were in a condition which admitted of some hope of improvement. For these patients, separate accommodations, extra diet and special treatment were provided, with the result that a majority of patients of this class showed a substantial gain in weight and a diminution of the active symptoms of phthisis.

I am happy also to announce on this occasion that the Loomis Sanatorium at Liberty, now in charge of Dr. Herbert M. King, has of late established an annex with 30 beds for the treatment of moderately poor consumptives, that is to say, for patients who are able to pay $5 per week, for which they receive the best board, medical attendance, medicine, and even washing.

Before leaving the subject of tuberculosis and the sick poor, I must mention a work of which the New York City members of this conference may justly be proud. I refer to the Committee on the Prevention of Tuberculosis of the Charity Organization Society of the city of New York. To those of you who have not yet heard of this committee, and to those in other cities who might wish to inaugurate similar movements, I believe it will be of interest to learn something of the workings of this committee and the results already obtained. The committee is composed of about 30 men and women and is presided over by Mr. Charles F. Cox, as chairman. Among the lay members are leading sociologists, lawyers, philanthropists and trained charity workers. The Tenement-house Commissioner, the Commissioner of Charities, the Health Commissioner, and the Health Officer of the city of New York are likewise of this number. Among the medical men 10 are distinguished professors of the leading medical schools of New York. Dr. E. L. Trudeau, the pioneer of the sanatorium treatment for consumption in the United States, is also counted among the honored members of the committee.

The work which this unique committee has undertaken is as follows:

(1) Research into the social, as distinct from the medical, aspect of tuberculosis. For example, into the relations between the disease and overcrowding, infected tenements and unhealthy occupations, and also the influence upon recovery, of improved diet and hygienic living.

(2) Education. The publication of leaflets and pamphlets, the giving of lectures and the promulgation in every possible way of the fact that tuberculosis is a communicable and preventable disease; the widest distribution of the results of scientific research in this field, and of the results of modern treatment both in sanatoria and at home.

(3) The encouragement of movements for suitable public and private sanatoria both for advanced and incipient cases; for adults and for children; for free care and also for the care of those who can pay moderate fees.

(4) The relief of indigent consumptives by the provision of suitable food and medicines, by the payment of rent when this is necessary to secure adequate light and air, and by transportation and maintenance at a distance, when, in the judgment of the committee, this is essential.

The labors of the committee are directed not only toward the amelioration of the condition of the large class of consumptives, but also toward the benefit of the community as a whole in which there is encouraging reason to believe that tuberculosis may be practically eradicated. The work of the committee is not intended to be merely temporary, but its continuance and effectiveness will depend upon the public encouragement and support received.

How deeply the work of the committee is appreciated by the public may be readily seen from the response to an appeal for financial aid to carry on the work. An appeal issued by the committee on Sept. 15 resulted in the receipt of about $5,000 by Oct. 1. The continued support which the public is lending to this committee enabled it to engage a permanent secretary, to have paid workers for the gathering of statistics, to arrange for a number of lectures throughout the city in public schools, Young Men's Christian Associations, tenement districts, and so on, and last but not least, to provide a number of destitute families, where there are consumptive invalids, with better hygienic conditions and means to pay for food and other necessities.

An offer of a site for a sanatorium has been already made to this committee, and it is devoutly to be hoped that funds for the establishment of such an institution will soon be forthcoming. I am also in hopes that some great philanthropist will give either to this committee, to the New York City Board of Health, or directly to the city, a much-needed tuberculosis dispensary where the ambulant consumptive poor, that is to say, the ones still able to be up and do some work, or the ones unable to be admitted to the hospital for incipient cases, can receive treatment and hygienic instruction. Such institutions are already quite numerous in France and Germany and are productive of a great amount of good in the combat of tuberculosis among the poor.

An equally great need is that for more hospitals for the advanced cases of consumption, such, for example, as St. Joseph's, the Brooklyn Home, and the one already mentioned, on Blackwell's Island in New York City. While but few cures can be expected in such an institution, through the proper isolation of such cases, that is to say, removal of the sick from the crowded tenement districts, centers of infection are destroyed and the financial burden resulting from the support of an invalid member in a family is removed, which is likewise essential for the preservation of the health of the remaining members of the family.

Being myself an humble member of the Tuberculosis Committee of the New York Charity Organization Society you will pardon my enthusiasm if I say that I consider the work which it has undertaken most timely, humane, rational and scientific, and that I prophesy for it a glorious future, providing it receives from our wealthy fellow citizens in New York the financial support it so truly deserves. I am convinced that if the same or similar work would be undertaken in other cities of this State and country, the "great white plague" would no longer have the terror it still has, and its ultimate eradication would be a great probability.

To trained charity workers it should be gratifying to know that the creation of this committee has been mainly due to the untiring efforts of Mr. Edward T. Devine, the secretary of this conference and secretary of the Charity Organization Society of New York City.

Another gratifying change for the better, in the care of the sick poor of the city of New York, has been effected through the work of our new Health Commissioner, Dr. Lederle, and his associate, Dr. Biggs. The deplorable condition of the Smallpox Hospital no longer exists, and an appropriation of $500,000 has been granted for the erection of new contagious disease hospitals for smallpox and scarlatina patients. The heart-rending sight of a child being taken from its mother without her being able to follow to the hospital and remain in its vicinity, will no longer be witnessed.

It remains for me to mention only one other great event in the care of the sick poor, or rather of the convalescent poor, which has transpired during the past year. It is with pleasure and the feeling of profound gratitude that I, as chairman of the Committee of the Sick Poor, express herewith our deep and heartfelt appreciation of the great gift to our beloved city by the venerable Mr. John M. Burke. It will be known to most of you that on October 2 of this year, a deed was filed at Marshall, whereby John M. Burke conveyed to the Winifred-Masterson-Burke Relief Foundation $4,000,000 worth of real and personal property, to be used as an endowment for a hospital for convalescents. In a recent communication to one of our medical journals, and also to *Charities,* I have expressed my views on the advisability of creating four homes instead of one, namely one for surgical convalescents with a division for obstetrical cases, that is to say, women recovering from confinement; one for convalescents from general medical diseases, such as typhoid fever, pneumonia, etc.; one for nervous cases; and lastly one for convalescents from pulmonary tuberculosis. The latter, however, should not be a convalescent home in the ordinary sense of the word, but rather a settlement or colony.

Through State and city appropriations and private philanthropy there is at present some prospect that we will soon have a number of sanatoria (though by no means enough) for the treatment of incipient, that is to say, early and curable cases among the consumptive poor. Now, the most difficult task in the solution of the tuberculosis problem is to prevent the cured consumptive from a relapse. If he returns to the unsanitary, dreary tenement, begins to work again in sweatshops and factories, or, owing to his feeble health, cannot yet earn enough to secure ample and nutritious food, the time and money spent for sanatorium treatment will have been all in vain, for he will surely relapse into the old condition and thus greatly endanger his chances for a lasting recovery. What can be done for him? For the recently recovered consumptive, who is rarely able to take up his former work immediately, we would establish a special farm in a good, healthy locality, where he could do light outdoor work and remain until he has grown vigorous enough to take up his old vocation or acquire sufficient liking for outdoor work to continue in it. Such an agricultural colony or farm seems to me the ideal home for the patient recovering from pulmonary tuberculosis. It would not only prove a blessing to thousands of pulmonary invalids, but would constitute a strong factor in the combat of tuberculosis, viewed as a disease of the masses. Agricultural colonies for the convalescent consumptive poor certainly seem as essential as special hospitals and sanatoria for the actual treatment of the disease. Such colonies for recovered consumptives have proved in a large measure self-supporting, wherever the experiment has been tried.

All four institutions should be in different localities, at some distance from each other, for the aggregation of too large a number of people would prove injurious to no matter what class of convalescent patients. If at all practical, each home should have a division for convalescent children, for there is, with the exception of a small number of homes for children, no institution of this kind in or near our city.

There is but one more suggestion I would venture, and that is in regard to the selection of cases to be admitted to the various homes for convalescents. Not only cases discharged from our public hospitals, but also those from private practice among the poorer classes who pay their physicians whatever they can, should share in the benefits of the Burke Foundation.

At the close of this report I wish to ask pardon for not having mentioned the work of other institutions and individuals. There are throughout this State a goodly number of charitable enterprises devoted to the care of the sick poor, of whose noble work in relieving the sick and needy we hear but rarely. Yet their work is systematic, continuous and effective. I desire to express to these workers our deep appreciation. There are also numerous private individuals, physicians and laymen, in cities, towns and hamlets throughout this State and country working quietly, unobtrusively and unknown to others, administering counsel, food and medicine in the homes of the poor and unfortunate. To

these co-workers, benefactors and unknown members of our committee for the care of the sick poor our gratitude is as great as that to our best-known benefactors. May they and all others continue in the good work and be blessed in their labors for the glory and good of humankind.

16 West Ninety-fifth Street.

CREDE'S INTRAVENOUS INJECTIONS OF SILVER (COLLARGOL) IN ULCERATIVE ENDOCARDITIS.

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THE soluble silver salts which were introduced into the treatment of general sepsis by Credé have a distinct and definite value in a certain number of cases. The evidence on this point has been presented by many unbiased observers in different countries, and thus counterbalances the enthusiasm of many of its too ardent advocates. An autopsy which I witnessed several years ago afforded a very striking proof of the wide distribution of the silver salts within the body even when introduced through the skin. The case was one of general sepsis (under the care of Dr. Brettauer) in which unguentum Credé had been used for a number of weeks. However, in spite of all treatment the woman died. At the autopsy the most striking feature was the deep general bluish staining of the tissues, and especially of some of the abdominal viscera, which is so characteristic of chronic argyria.

My own clinical experience with unguentum Credé has been sufficiently satisfactory to warrant the belief that the remedy is a powerful agent in general sepsis, as claimed by Credé. To individualize and to definitely state in just what patients and in what class of cases success may be expected is, however, an impossibility.

The various phases of the silver treatment and the various modifications in its application, it is not my purpose to discuss, since Credé and others have presented the subject very fully. I wish to limit myself to the employment of collargol in septic endocarditis, as proposed by Wenckebach,* who reported two cases, both of which were quickly cured by the intravenous injection of 1-per-cent. solution of collargol.

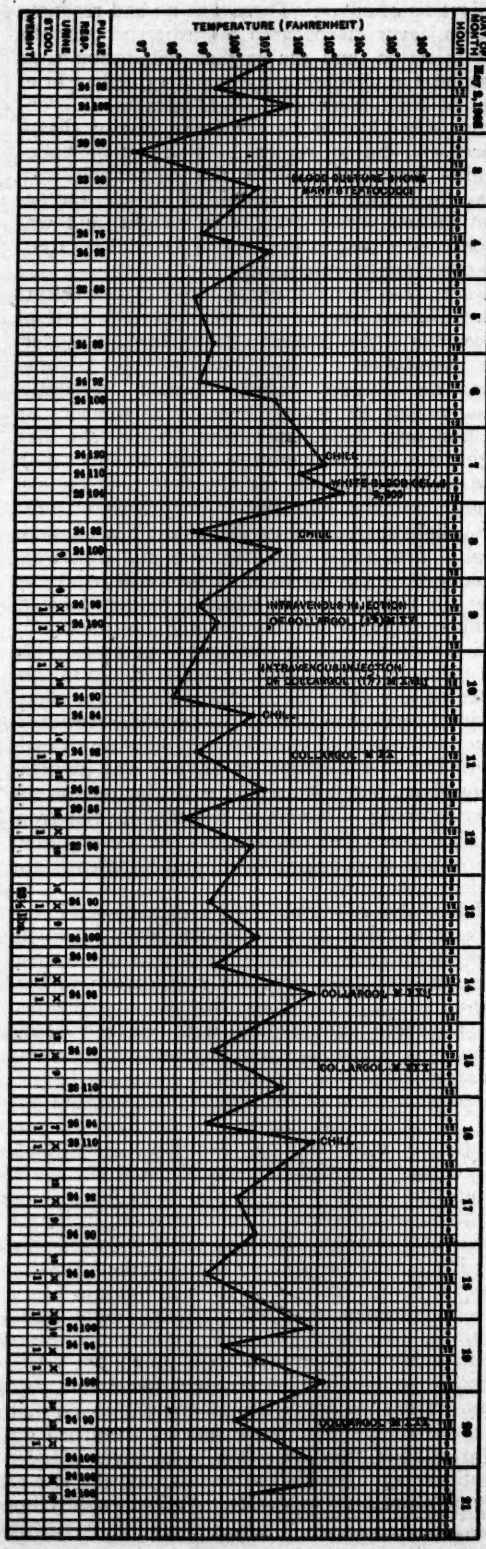
Case I.—Boy, fifteen years old, developed an acute endocarditis during an attack of keratitis. The course was characteristic of an acute ulcerative endocarditis with irregular septic fever up to 39.5° C., enlargement of spleen and embolism of right forearm. Blood cultures revealed the *Staphylococcus albus* in the blood, four cultures being positive, three negative and one doubtful. He was admitted to the hospital on August 27, 1901. The first positive blood cultures were obtained on September 4 and the first intravenous injection of the 1-per-cent. collargol solution (= 12.5 milligrams of silver) was made. In all, nine injections were given, averaging 24 to 30 milligrams of silver. There was no bad reaction, and the fever disappeared immediately after the first injection, and the cardiac palpitation soon lessened. On October 4, 7, 10, and 13, he had brief rises of high fever with slight attacks of bronchitis. On October 13 the fever finally disappeared and did not return. After that the endocarditis improved rapidly, the palpitation lessened, the cardiac area diminished in size, the patient gained very markedly in weight, and was discharged cured at the end of December, 1901. No other drugs were used.

Case II.—Female nurse, twenty-one years old. Became anemic and weak in early part of November, 1901, and also complained of moderate palpitation. Later had a few paronychia on fingers which healed promptly. Finally had to go to bed on December 19. At first once daily, later twice daily, she had high rises of temperature (up to 40° C.). Wenckebach saw her for the first time on December 29; she was then quite delirious; pulse 118; slight increase in cardiac area; heart sounds weak; "first aortic sound impure and somewhat prolonged." On the back of the right hand and over the right hip were painful, reddened ulcers (embolisms?) which disappeared spontaneously in a few days. Spleen enlarged to percussion but not palpable. Blood culture negative. In the absence of any other discoverable lesion, the diagnosis of septic endocarditis was made. An intravenous injection of two-per-cent. solution of collargol (= 50 milligrams of silver) was immediately given, and followed by a similar one on the next morning. The fever immediately fell from 37.2° C., and did not return; the general condition was at once improved, and apparently the patient was cured.

Klotz* has also published a case of septic endocarditis cured by intravenous silver injection. The patient was a twenty-seven-year-old woman who suffered from articular rheumatism following an attack of tonsillitis; this was accompanied by a severe endocarditis with marked septic symptoms. Systolic apex murmur with cardiac enlargement; pulse 160; spleen could not be palpated on account of tenderness; temperature 39° C. Klotz saw his patient for the first time on March 12, 1902, although her illness dated back to February 5 (original tonsillitis; first rheumatic symptoms March 7). On March 13 he gave an intravenous injection of one-per-cent. collargol (nine centigrams). Decided relief followed this, but it was only temporary and as, on the following day the fever had risen to 39° and pulse to 140, a second injection was then given (eight centigrams). One hour after this there was a severe chill, with rise of temperature to 40.2°, but subsequently patient felt better, slept five hours, and temperature on following morning was normal, and pulse 84. The fever having returned on March 15, a third injection was given (seven centigrams). No chill after this, and the rise of temperature only moderate. Patient rapidly im-

* Therapie der Gegenwart, Feb., 1902, p. 65.

* Deutsche med. Wochenschrift, July 17, 1902, p. 524.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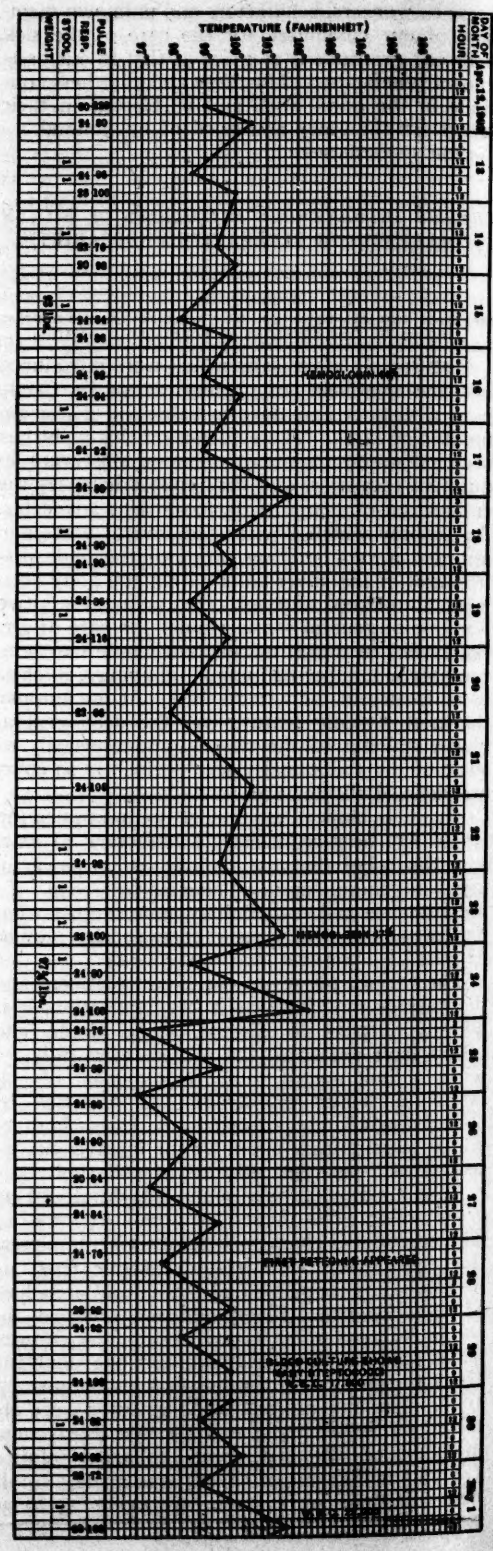
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proved, the systolic murmur was no longer to be heard after March 20, and the patient made a complete recovery.

Such results, especially as in the first case, are sufficiently striking to warrant further trial of the collargol injections. My own experience in ulcerative endocarditis had unfortunately been the same year after year in spite of all the various treatments employed. The only ray of hope I saw was that offered by the results of an autopsy of a rapidly fatal case of this kind. Eight or nine years ago when the aniline dyes were the fashionable specifics against all kinds of sepsis, I used methylene blue in a very severe case of ulcerative endocarditis. Death occurred in spite of the free use of this dye for 10 days (five grain capsules every three hours). At the autopsy a very striking picture was revealed: the large masses of fibrin and the underlying ulcers were deeply stained blue, while the normal endocardium was uncolored. The sections of these stained tissues showed very numerous colonies of cocci which were deeply colored blue. However, not a single case of ulcerative endocarditis in which I subsequently used methylene blue recovered.

I have used the collargol injections in only two cases of ulcerative endocarditis; the results in both cases are so strikingly unlike the few reported cases of success that their publication may not be without interest.* The cases were well suited for the treatment since in both the diagnosis was established by the ordinary history and symptoms; furthermore the presence of petechiæ and the repeated demonstrations of streptococci in the blood, and the blood counts, both before and during the period of the injections of the collargol render them particularly valuable for determining the value of these injections.

Case I.—Jos. S., Russian, eighteen years old; was admitted to my service at Mt. Sinai Hospital, March 25, 1902; hospital No. 71,470. For a month preceding his admission he had had vague rheumatic symptoms, and especially pain in the lumbar region. On examination double mitral and aortic murmurs with characteristic changes in heart and pulse were discovered. Liver, spleen and lungs negative. After a few days his moderate, irregular fever rose, and since then has been of a high, irregular septic type. For irregular intervals it would be lower, but later it would again rise. There were no chills. Pulse ranged between 86 and 100; respiration 26 to 32. On April 2, hemoglobin was 68 per cent., white blood cells 36,000. Spleen enlarged and palpable one inch below free border.

April 7, white cells 10,600; April 16, 11,000. General condition being unchanged in spite of all treatment, collargol intravenous injections were begun. April 16 and 17, 20 minims; April 18 and 19, 24 minims. General range of temperature seems somewhat lower, but no change in the general condition.

On the latter date petechiæ were observed for the first time, two being located on the right conjunctiva, and several on both palms. Blood culture taken on that day grew many colonies of streptococci. Hemoglobin 77 per cent.; white cells 15,000. Weight 92¾ lbs.

April 22 injected 29 minims; 24, 30 minims; 25, 32 minims; white cells 12,000; spleen larger by two finger-breadths. April 26 and 27, injections of 32 minims; 28, 35 minims; weight 95 lbs. April 29 and 30, 32 minims; temperature range slightly lower. May 1, 2, 4, 5, 6, 8, 9, 10, 11, injections of 30 to 35 minims; on May 13, 15 minims was the amount of the last injection given.

There was no special change except such as may occur during the course of the disease. On May 3 blood cultures grew numerous colonies of streptococci after 12 hours; and on the same date fresh petechiæ appeared on the right conjunctiva. May 5, petechiæ in right eye and mouth; weight 89¼. May 8, hemoglobin 60 per cent.; May 12, 50 per cent.; white cells 16,200; weight 94 lbs. May 20, few streptococci grown with difficulty in blood culture taken one week after the cessation of the injections. May 29, mycotic aneurism in left posterior tibial artery.

The subsequent course of the case up to the present time (August 12, 1902) was that which is so characteristic of the chronic ulcerative endocarditis and its varied septic phenomena. Especially interesting, in addition to the mycotic aneurism noted above, were venous thrombosis in the left cubital fossa; embolism in the right popliteal and left external carotid arteries. Infarctions also occurred in the spleen and kidneys.

In spite of the 26 injections the disease pursued its course unchanged. The streptococci grew vigorously in all the cultures, the white cells remained high in number, the percentage of hemoglobin gradually fell, and the intensity of the sepsis may also be readily inferred from the occurrence of the mycotic aneurisms and the other vascular phenomena.

The patient was discharged at his own request September 1, 1902, his condition being unimproved.

Case II.—Johanna M., eighteen years old; bookkeeper. Admitted to my service at Mt. Sinai Hospital, April 12, 1902; hospital No. 71,606. Previous history negative except acute articular rheumatism. First attack was nine years ago and lasted nine weeks after having involved all the large joints. Since then she has had mild attacks every winter. Has had mild dyspnea for some time. Present history is of four months' duration. Six weeks before admission severe dyspnea and cardiac palpitation. One week ago attack of iritis. At present joints are normal. Examination shows characteristic mitral regurgitant murmur. Heart action regular. Liver enlarged to two finger-breadths below the costal border; no spleen.

April 28, petechiæ appeared on anterior surface of chest and arms, right foot and on conjunctiva of lower lid; heart same, except some irregularity;

* Although this treatment was also used in other cases of sepsis, I shall not now enter into any discussion of the results.

liver about same, but spleen now palpable one-half inch below free border; its lower border tender. April 29, few petechiæ on lower lip with new ones on arms, forearms and chest; blood culture shows many colonies of streptococci. April 30, fresh crops of petechiæ in old areas and also in palms and hypothenar eminences. May 3, better; fewer petechiæ; blood cultures with same result. May 5, fresh petechiæ on hard palate; May 7, chill followed by fever to 103.8°F.; pain in knee. May 8, chill. May 9, first injection of one-per-cent. collargol (15 minims) into left median basilic vein. May 10, second injection, 18 minims; followed by chill. May 11, third injection, 20 minims. May 14, fourth injection, 22 minims. May 15, fifth injection, 30 minims. May 17, fresh petechiæ on both conjunctiva and on mucous membrane of cheeks; general condition good. May 18, another crop of petechiæ; small hematoma on buccal mucous membrane; heart and spleen same. May 20, sixth injection, 30 minims. May 21, condition unchanged, and patient was discharged at her own request, unimproved.*

The injections, as a rule, are comparatively painless except when the cannula accidentally missed the vein and thus allowed the solution to enter into the surrounding tissues. This pain was very severe and lasted several hours. This accident was often unavoidable since the veins are not always readily found in these cases. The available venous area for injection is not unlimited and the fact that every available superficial vein had been injected was the cause of the suspension of the treatment in Case I. The technic of this treatment may be found in Credé's paper in *Berliner klin. Wochenschrift*, No. 37, 1901, p. 943. In this paper Credé gives an excellent résumé of his silver treatment.

There were no unpleasant after-effects of the treatment except moderate chills which frequently occurred three to six hours after the injections. This has been noted by Credé and others who have used this treatment. According to Credé, chills do not occur if the solution is filtered or carefully decanted. Another feature to which attention may be called is that in Case I there were painful thrombosed areas in some of the injected veins, some days after the injections had been made.

The occurrence of mycotic aneurisms in Case I after the patient had had 26 large injections, the persistence of the streptococci in the blood during the course of the treatment and the fresh crops of petechiæ, and the failure of the injections to modify the course of the disease in these two cases, show that the ideal treatment of ulcerative endocarditis is still to be discovered. There are undoubted cases of recovery from this dread disease, the most recent evidence of which has just been presented at the last meeting of the Association of American Physicians, where Herrick's cured case evoked a discussion in which a number of other apparent cures were reported by Thayer, Kinnicutt, Janeway and Shattuck. It is exceedingly difficult to say whether such cases are really cured or are merely latent.*

There is another difficulty in judging these cases, namely from a diagnostic standpoint. Many cases of general sepsis with endocardial or pericardial murmurs are undoubtedly reported as being cases of ulcerative endocarditis. Jürgensen has again directed attention to the occurrence of pseudo-endocardial and pericardial murmurs in general sepsis, and it is possible that some of the reported cures may be explained on this basis.

Although the experience in the two cases reported above is gloomy, and distinctly opposed to the three cases of Wenckebach and Klotz,—the latter's case and Wenckebach's second case being by no means above criticism,—yet in a disease in which the prognosis is so bad, further and more extended trials of this new method are warranted before passing final judgment upon its value.

* It has since been learned that this patient died five weeks after admission to the Montefiore Home.

REMARKS ON ONE OF THE COMPLICATIONS OF ANESTHESIA (ASPHYXIA).†

BY THOS. L. BENNETT, M.D.,
OF NEW YORK

THE most frequent of the complications of anesthesia, one that is present to some extent in a large majority of all administrations and which is a factor of annoyance, concern and occasionally of well-founded alarm, is asphyxia. The word asphyxia is not used here in its literal sense alone, of death through the respiration, but rather denoting the condition produced by a lessened percentage of oxygen or an increased percentage of carbon dioxide, or both, in the blood. This state is produced in a number of ways during the administration of anesthetics.

1. By the simple exclusion of oxygen, as in the inhalation of pure nitrous oxide or highly concentrated ether vapor.

2. By paralysis of the respiratory center from over-narcosis, producing failure of the respiration.

3. By the production of a condition, the exact nature of which is unknown to the writer, a condition in which cyanosis is marked notwithstanding free respiration and no exclusion of oxygen. This most frequently complicates the administration of chloroform and is usually associated with some circulatory depression. Close observation of this phenomenon has led the writer to believe that it is due either to a paralyzing effect of the anesthetic upon the blood corpuscles, suspending their function of carrying oxygen and carbon dioxide, or to failure of the pulmonic circulation, this in turn being due to depression of the cardiac and vasomotor mechanism or to paralysis of the walls of the pulmonic vessels, resulting in such

* N. Y. Med. Record, May 10, 1902. Herrick's interesting paper, which has since been published in MEDICAL NEWS, Sept. 6, 1902, contains a number of undoubted cures.

†Read before the Society of Alumni of Bellevue Hospital, Nov. 5, 1902.

inefficiency of the lesser circulation that proper aeration of the blood is not accomplished.

4. Asphyxia complicating anesthesia is most frequently produced by mechanical obstruction to respiration resulting from: (*a*) narrowing of the air passages from within, examples of which are met in cases presenting tuberculosis, carcinoma, papilloma, etc., of the larynx, laryngeal diphtheria, edema of the glottis, hypertrophied tonsils, tonsillar abscess, growths of the pharynx, tongue or jaws, nasal polypi, adenoids and other nasal growths, hypertrophied turbinates, deflection of the septum and similar conditions. I wish to call especial attention to a form of obstructed respiration caused by swelling of the tissues about the glottis as a result of the congestion of these parts set up by the anesthetic. Hewitt has shown that marked narrowing of the air-way is produced in this manner; (*b*) narrowing of the air-passages from without, as a result of pressure, is met in cases presenting enlarged glands or other tumors of the neck, mediastinal region, pharynx or esophagus and in abscess or cellulitis about the neck, mouth or pharynx; (*c*) other forms of pressure upon the respiratory organ occur in distention of the abdomen from tumors, ascites, tympanites, intestinal obstruction, etc. Lung compression from pleuritic effusions, empyema and pneumo-thorax furnishes one of the most dangerous forms of obstructed respiration and we must not overlook the exceedingly important fact in these cases, that if one lung is collapsed by pleuritic distention, the other lung must take care of the entire lesser circulation and that while performing this excessive function, the lung and the heart are easily embarrassed; (*d*) diseases of the lung limiting respiratory capacity, such as bronchitis, pneumonia, tuberculosis and emphysema, favor the production of asphyxia during anesthesia. Pulmonary edema from rapid lung congestion following removal of pleuritic fluid, is a positive danger in these cases; (*e*) certain positions required for the proper performance of the operation are often such as to obstruct the respiration. Patients who habitually lie with the head and shoulders well-elevated are usually embarrassed in their breathing if they assume the horizontal posture and this is especially true of those who already have difficulty of breathing on account of some pathological state. The Trendelenburg position in patients who are distressed by abdominal distention is usually accompanied by considerable asphyxia. The knee-chest and prone positions often interfere with efficient respiration. The position of the head, jaw or tongue desired by the operator frequently causes obstruction to respiration, especially flexion or twisting of the head, flexion of the jaw and depression and backward displacement of the tongue. (*f*) Operative manipulations not infrequently interfere with the respiration by distortion, pressure or fixation of parts of the respiratory mechanism. To limit or prevent the normal respiratory rise and fall of the larynx obstructs the respiration in a marked manner, also retraction or packing of wounds in the neck in some instances. Manipulations interfering with the movements of the chest and diaphragm, as in operations about the ribs, stomach and liver, may cause pronounced obstruction to respiration, especially to expiration which is for the most part a passive act and easily overcome. It must be borne in mind that obstruction to expiration will cause asphyxia as well as obstruction to inspiration; (*g*) foreign bodies in the air-passages frequently obstruct the respiration during anesthesia. They may be present before the administration or enter during it. The most common examples of the latter are, mucus and saliva, products of vomiting, blood and other matter resulting from operations about the air-ways. Special attention is called to obstructed respiration from pulmonary edema which the writer believes is quite common in its lesser degrees as a result of crowding ether. The so-called bronchorrhea of etherization is probably pulmonary edema on the one hand or mucus and saliva drawn into the air passages on the other, the latter being very common, especially in children; (*h*) another form of obstructed respiration occurs from stertor and stridor, the former being usually a result of over-narcosis or some degree of asphyxia, the latter being reflex and usually denoting a somewhat light narcosis. Laryngeal spasm occasionally occurs during anesthesia and greatly obstructs the respiration, occurring early in the administration, it seems to be directly connected with the strength and pungency of the vapor, later, during the period of general muscular rigidity it is apparently part of that condition. It is also caused by the entrance of foreign matter into the larynx, as mucus, vomited material and particularly a bile-stained fluid from the stomach, which causes prolonged spasm, laryngeal and apparently bronchial; (*i*) some types of patients are especially prone to obstructed respiration during anesthesia, notably those having short, thick, muscular or fat necks. Patients with anchylosis of the jaw and of the cervical vertebræ often suffer from more or less asphyxia during anesthesia and are considerably endangered thereby. The presence of a perfect set of teeth often favors the production of asphyxia by effectually closing the oral air-way during periods of rigidity or light narcosis when the jaws may be firmly closed. A long thin nose, with slit-like orifices may obstruct the respiration by valve-like closure on inspiration. Patients with preexisting dyspnea from any cause are very liable to asphyxia during anesthesia and all forms of obstructed breathing before the administration of an anesthetic, tend to become more complete under it.

The signs of asphyxia may be conveniently classified according to the parts of the system from which they arise. The respiratory system is deeply involved in asphyxia, undergoing remarkable changes and giving rise to striking signs of that state. Whether asphyxia is caused by a deficiency of oxygen or an excess of carbon

dioxide in the respired medium, or by suspension of the respiration, the first respiratory effect is hyperpnea, an increase in the respiration involving rate, depth and force. If the supply of oxygen is normal but of carbon dioxide moderately excessive, simple hyperpnea may continue for hours, but is finally succeeded by gradual respiratory failure, coma and death, without convulsions.

In deprivation of oxygen on the other hand, the respiratory increase is progressive and upon reaching an excessive point changes in character: heretofore inspiration has been most active, now, "expiratory movements become increased out of all proportion to the inspiratory, so that finally respiration is made up of a series of prolonged expiratory convulsions, separated by short inspirations." Oxygen remaining absent, after a brief interval of this form of respiratory effort, there is a sudden prolonged cessation, usually at the end of expiration. This may be repeated several times before death or give way to slow deep inspirations which in turn become shallower and shallower and finally cease.

The circulatory system also takes an active part in asphyxia and furnishes prominent signs of that state. Cyanosis caused by veinosity of the arterial blood is the very index of asphyxia and is perhaps its most conspicuous sign. It may be present in any degre from slight duskiness to intense purple or bluish lividity. In the early stages of asphyxia, corresponding to hyperpnea, the heart's action is increased in rate and force, the arterial blood pressure rises and the pulse is correspondingly altered. Very soon, however, the heart's action becomes slowed and its cavities dilated. The heart is now rapidly affected by distention and lack of oxygen, its contractions become feebler and the emptying of its chambers more and more imperfect, till its dilatation reaches an enormous degree, the heart "actually bulging out between the split sternum" in animals the subjects of experiments in asphyxia. The blood pressure is rapidly lowered and the heart gradually ceases to act, all its cavities, especially the right, distended with blood.

The Muscular System.—During the earlier stages or slighter degrees of asphyxia the increased action of the muscles of respiration constitutes the chief sign referable to this system. As dyspnea deepens, respiratory effort increases till nearly every muscle in the body is involved. Clonic spasms now appear in the muscular system generally, at first producing slight twitchings most noticeable in the extremities but also involving the muscles of respiration and producing jerky, interrupted breathing. The clonic spasms increase till they amount to general convulsions. Later, tonic contractions occur, producing marked rigidity and often great distortion of parts. The rectum and bladder are usually emptied at this time. The nervous system plays a prominent though inconspicuous part in asphyxia. Its action is apparent in all of the reflex, muscular and vasomotor changes already enumerated. In the lesser degrees of asphyxia complicating anesthesia the nervous system is abnormally alert, there is general restlessness and the reflexes are exaggerated. Early, the pupil is contracted, though in profound asphyxia it is widely dilated.

Such in brief are the leading signs of asphyxia and I venture to say that they constitute the greater part of all the annoying, distressing and dangerous factors in anesthesia. The continuous administration of pure nitrous oxide will cause this entire succession of signs to appear and death to ensue in about one minute in an average patient. In this instance the various signs and stages pass rapidly. The asphyxial complications of ether and chloroform anesthesia are as a rule less rapid in their development and rarely reach the degree commonly seen with gas but they are present to some extent in most administrations.

In applying these facts to anesthetized subjects care must be exercised not to confound the signs of incomplete or excessive narcosis with those of asphyxia. This is not always a simple matter and when in doubt must be tested by acting according to one supposition or the other.

Given a proper degree of narcosis, the following complications of anesthesia are, for the most part, to be attributed to some degree of asphyxia: Respiration excessive in rate, depth and force with marked flexion of the chin on inspiration and great tendency to stertor. Cyanosis, noticeable early in the lobe of the ear and in prominence of the superficial veins. Undue exaggeration of the heart's action, the pulse remaining too rapid and of a sharp, tense character, the tissues unduly vascular, congested and dark. The muscular system active, especially that of respiration rendering the movements of the abdomen and chest excessive and rigidity of the former marked. General muscular rigidity of a persistent character seen especially during the early "pushing" of ether. Athetoid movements of the finger, squinting of the eyes, wrinkling of the forehead, slow twitchings about the mouth, pursing up or closure of the lips, rigidity of the jaw and head, general restlessness, vacillating pupils, unnatural activity of some of the reflexes. These and other signs are the annoying factors of anesthesia, and if neglected may lead to more serious states. The effect of abnormal veinosity of the blood, unnecessary force and rapidity of the heart's action and of the respiration, together with general muscular activity, restlessness, exaggeration of the reflexes and other asphyxial phenomena continued throughout a long and critical operation must add greatly to exhaustion and shock and may often act as "the last straw" which decides against recovery.

The treatment of asphyxia complicating anesthesia is the least part of the subject, for a proper realization of the reality and importance of the matter will lead to its prevention and this is the solution of the problem. The patient must not be allowed to suffer from deprivation of oxygen or to breathe an excess of carbon dioxide or to have his respiration obstructed and whenever these

factors are necessarily present to some extent it should be seen to that as little additional tendency to asphyxia is added as possible. The general principles to be observed in carrying out this preventive treatment are briefly as follows: Unobstructed respiration should be obtained by maintaining an open air-way, by avoidance of conditions preventing free respiratory movements, by the selection of the proper anesthetic and by its administration in such a way as not to limit the supply of oxygen or increase the percentage of carbon dioxide to the extent of producing signs of asphyxia. Anesthesia by nitrous oxide alone or mixed with air or with oxygen is the form of anesthesia most frequently complicated by asphyxia, this is the chief risk of the administration and patients who should not be exposed to this risk should have some other anesthetic. Anesthesia by ether stands next in this respect but there are very few persons who can not be satisfactorily anesthetized with ether given with a sufficient admixture of air. There are some patients however who will suffer from the deprivation of oxygen resulting from the rather high percentage of ether vapor that it is necessary to mix with air in order to produce anesthesia, and these patients should have ether only when mixed with air containing an increased percentage of oxygen, otherwise they should have chloroform in some form. Chloroform is given in such small percentage that it can of itself hardly cause asphyxia by air exclusion and in this respect it is the choice when this factor is of chief importance. Whenever a certain degree of asphyxia necessarily complicates anesthesia, much may be accomplished in its relief by the administration of oxygen throughout the narcosis. The relief of excessive asphyxial states occasionally produced during anesthesia, calls for such measures as, forcing open the mouth, pulling forward the tongue, the performance of artificial respiration, the performance of intubation or tracheotomy. The last should not be too long delayed.

17 West Ninetieth Street.

A NEW COMPACT PORTABLE OPERATING TABLE.

BY HOWARD LILIENTHAL, M.D.,
ATTENDING SURGEON TO MOUNT SINAI HOSPITAL, NEW YORK.

WHEN operative work must be done in a private dwelling it is the aim of the surgeon to make his surroundings as far as possible like those of his regular workshop, the Hospital operating room. His instruments, gowns, dressings, sponges, sutures and other supplies he either brings with him, or they are purchased at the drug store. Much of the apparatus necessary for the operation may be improvised with fair satisfaction, but all such improvisations, no matter how clever they may be, are, after all, makeshifts and are not to be compared in usefulness

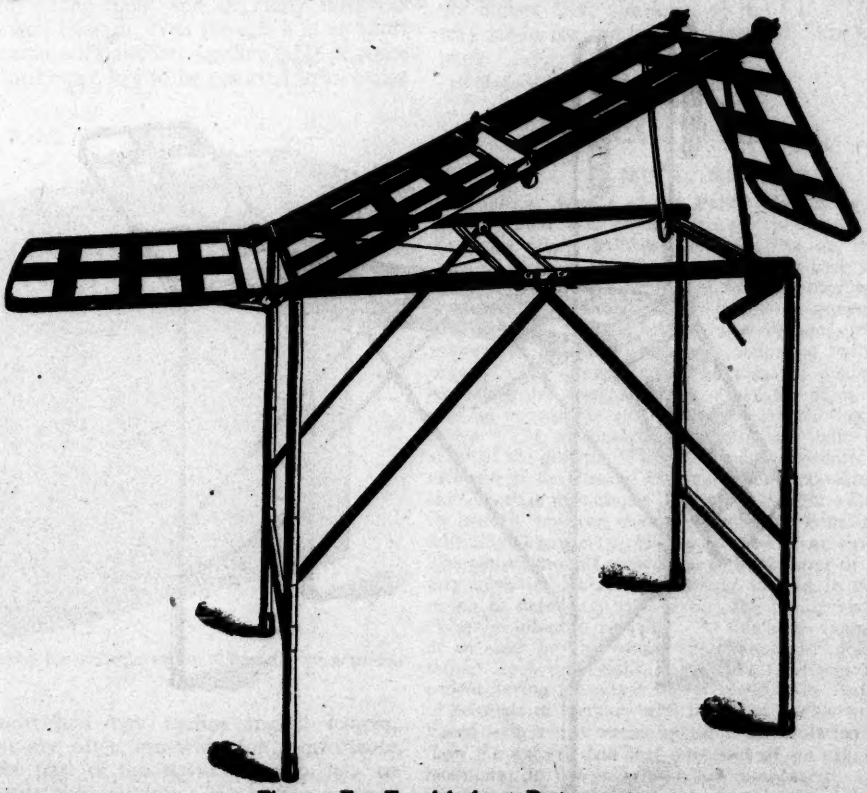

Fig. 1. For Trendelenburg Posture.

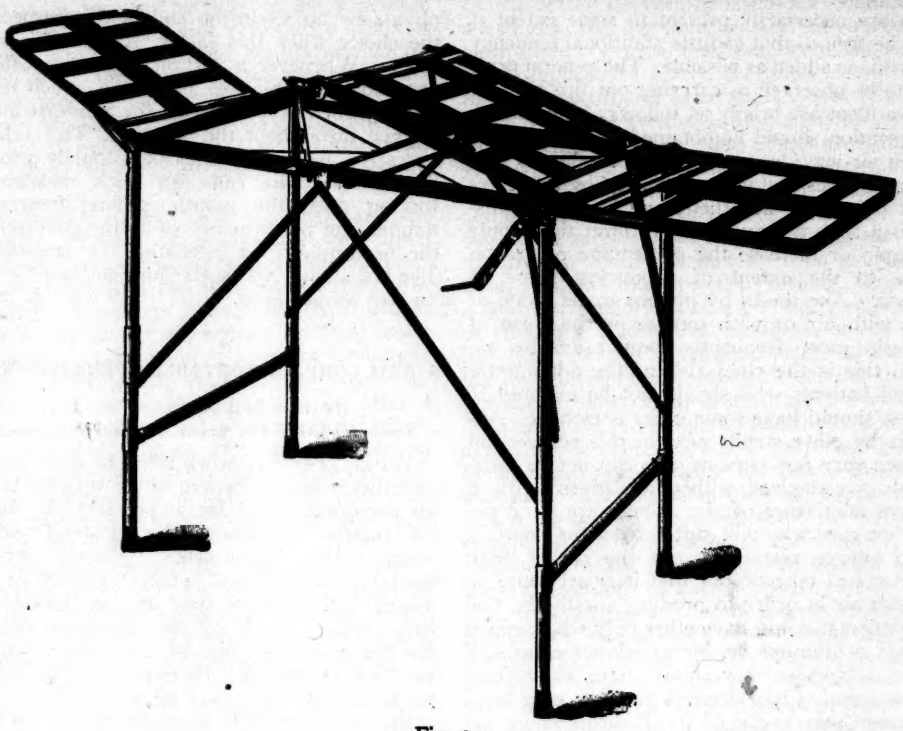

Fig. 2.

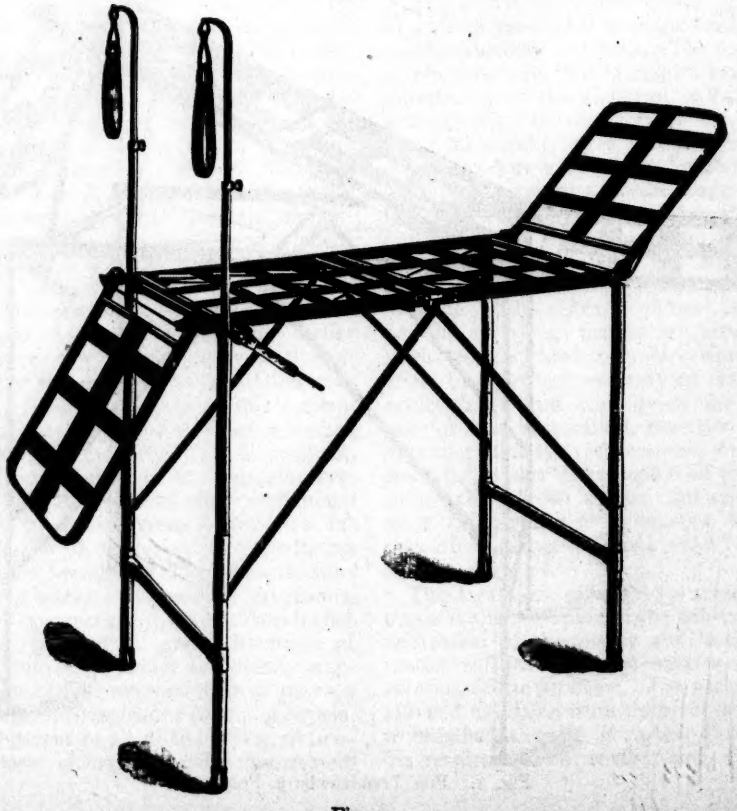

Fig. 3.

and convenience with the articles which they supplant.

The table upon which the patient lies during the operation is usually procured from his

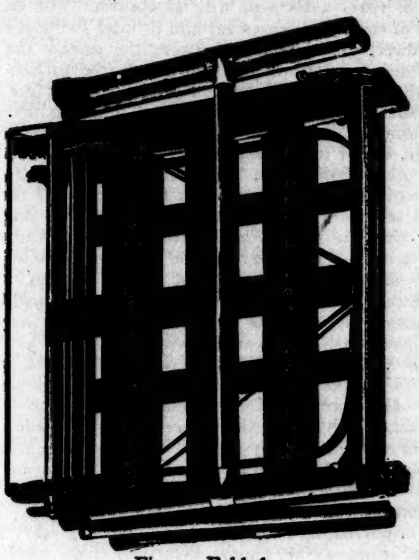

Fig. 4. Folded.

kitchen or dining-room and in many instances this does well enough, even though it is so short that extension with another smaller table or some similar contrivance has to be resorted to in order

Fig. 5. Packed for transportation. Weight, 36 pounds.

that the individual may recline at full length. Such tables are often too wide for comfortable work on the part of the assistant who has to stand opposite the operator. There are numerous other disadvantages which will readily suggest themselves.

The portable operating table here presented is strong, light and more compact than any other with which I am acquainted. It has been thoroughly tested and has given satisfaction. The Trendelenburg position (Fig. 1) is easily and simply secured and the table permits of another position which, so far as I am aware, has never been possible without the help of cushions or pads of some kind. I refer to the raising of the middle sections of the top (Fig. 2), so as to form a double inclined plane upon which the patient lies on his side for operations about the kidney. This position can be secured without the necessity of lifting the patient from the table. The head-piece and the foot-piece can be completely lowered and can be raised to a considerable degree (Fig. 3). The entire table, from foot to head can be tilted so as to invert the patient in the event of sudden collapse. There are no bracing pieces near the floor, which are liable to be buckled by the foot of a careless assistant.

The weight of the table alone is 28½ pounds. With the leg holders and in its case ready for transportation it weighs 36 pounds. The case is 8 inches wide and measures 21½ inches in the other dimensions. The table is 6 feet long, 18½ inches wide and it is made in various heights, the one here presented being 33 inches. The double-inclined plane can be raised to a distance of about six inches from the level of the top. The table was made for me by the Hospital Supply Company.

766 Madison Avenue.

MEDICAL PROGRESS.

MEDICINE.

Syphilitic Tumor of the Pelvis Simulating Malignant Growth.—A clinical history presented by A. FOURNIER (Bull. de l'Acad. de Med., Oct. 21, 1902) relates to a pelvic growth in a man thirty-four years of age. The patient was referred to the writer with the diagnosis of inoperable sarcoma; a large growth occupied the space between bladder and rectum, producing intolerable pressure symptoms connected with both organs. The growth could be palpated abdominally, extending two fingers' breadth above the pubis. There was no appreciable enlargement of neighboring lymph nodes. The personal history threw no light on the cause of the growth. The patient denied syphilis and no evidence of the disease was revealed by examination of skin, mucous membranes or osseous system. The family history, however, showed a singularly large infantile mortality—among 15 children 12 died at an early age. The patient himself showed no sign whatever of hereditary syphilis. There was nothing to lead to the suspicion of hereditary taint except the family history of excessive infantile mortality. At this stage examination of an elder brother by an ophthalmologist discovered retinal signs of syphilis, and mixed treatment for the patient having the tumor was resolved upon. Injections of benzoate of mercury with potassium iodide were followed within two weeks by signs of resolution; in 20 days the growth had lost one-third of its original dimensions; in two months it had disappeared. This is the first case of the kind ever seen by Fournier; and

Guyon, whose observations have been equally extensive, is not aware that he has ever seen a parallel case. The appearance of this large and rapidly growing pelvic gummatous cellulitis, suddenly developing in a man of mature years, was the very first and the only sign in this patient of hereditary syphilis.

Tuberculosis from the Assimilation Standpoint.—From the study of proteid assimilation and disassimilation in patients, and experiments with dogs, J. MITULESCU (C'blatt f. Inn. Med., Oct. 25, 1902) believes that the ability of the cell to counteract the tubercle infection is dependent upon its ability to preserve a surplus of proteid matter. This enables the system to produce substances antagonistic to the bacilli, and connective tissue to shut off the lesions. If the cells have inherited or acquired a weakened vitality it is impossible for them to take in and transform as much protein as is required of them, and the bacilli flourish, increase the lesions, break down the tissues, make way for other bacteria, especially the streptococcus and influenza bacilli, which tend to produce more acute disease, and the individual succumbs. From a prognostic standpoint there are three periods, viz.: the development or growth period, the stationary, and the period of organic degeneration. In the first period the lung-infection is characterized by a few uncertain manifestations, more or less indicating a slight toxemia. Here the diagnosis can be made certain only through the use of tuberculin, and the cure is easily possible. In the second period, certain local signs inform us of a lung lesion and the bacillus can usually be found in the sputum. By rational treatment a condition of cell-compensation is maintained, and the organism remains in about a stationary condition, neither improving very much nor becoming worse. But here the resistance of the body may be lessened at any time by any new demand on the tissues, and then the disease makes rapid headway. In the third period where the bacillus is associated with other bacteria, cellular disassimilation is increased, and in spite of all treatment the patient goes down hill. The author found that so long as the nitrogenous material administered exceeded that found in the feces and urine there was no emaciation, but that shortly after the excreted nitrogen equaled or exceeded the nitrogen ingested, the body rapidly failed.

Stercoraceous Vomiting of Hysterical Origin.—A case is reported by F. FAZIO (La Rif. Med., Oct. 29, 1902) in which stercoraceous vomiting replaced the fecal evacuation by rectum; subsequent developments demonstrating the hysterical nature of the affection. The author holds that stercoraceous vomiting cannot be explained entirely upon the theory of reversed peristalsis, but that a real obstruction in the intestinal canal is responsible for the trouble; this may be simply in the nature of intestinal spasm, or a real paralysis may exist as in nervous spastic ileus and nervous paralytic ileus. In sudden cases, not preceded by constipation, the vomiting is probably attributable to intestinal spasm; in those of gradual development, preceded by constipation, to paralysis. Treatment is psycho-suggestive.

Eruptions Following Injections of Diphtheria Antitoxin.—Such eruptions are relatively frequent says G. CARRIÈRE (Nord Méd., Nov. 1, 1902) who classifies them under the heads of urticaria, morbilliform scarlatinaform and polymorphous erythema, purpura and prurigo. These eruptions are said to bear no relation to the amount of serum injected nor to associated micro-organisms, but they are believed to be in some degree an indication of the gravity of the diphtheria, the phenomena being of more frequent occurrence in severe cases. The author states that such eruptions are of short duration, may appear early or in the more advanced stages of the disease, and require but simple treatment such as tepid starch-baths, dusting with talcum powder and slight purgation.

Tapeworm as a Cause of Diabetes.—Two cases of tapeworm are reported by J. E. JUDSON (The Lancet, Nov. 8, 1902) associated with glycosuria. The coincidence of the two diseases led him to infer the possibility of a direct causal relation between the worms and the other disease. The theory which occurred to him was that the head of the tapeworm might possibly get into the pancreatic duct and become well fixed to the wall by means of hooklets, and through the inflammatory change, which it would produce, cause an occlusion of that duct. Extirpation of the pancreas brings on glycosuria in animals, owing to the absence of the internal secretion, the presence of which is necessary in order that the normal assimilative processes can take place with the glycogen. If the duct be occluded the gland will in time atrophy and become useless. This would then exhibit the same condition as if it had been extirpated. He says he is well aware that it may be considered rash to advance such a theory on so little evidence, but can quite see the possibility of the symptoms of diabetes, which in the two cases he reported, were only discovered on examining the urine—being overlooked unless an examination had been made; and he thinks that not many practitioners who were treating patients for tapeworm would examine the urine for sugar without some subjective indications.

Saline Infusion in Purpura Hemorrhagica.—Purpura hemorrhagica has been looked upon for years, in its frank forms, as an almost invariably fatal condition. On the theory of diluting the poison within the blood which causes the bleeding, V. G. ALGNINE (La Sem. Med., Oct. 22, 1902) has injected normal salt solution beneath the skin. In one case, which he reports, in which the ordinary therapeutic measures, *i.e.*, ergot, chloride of iron, essence of turpentine, ice-packing of the nose, etc., had failed, he found improvement to begin immediately after the first injection, which consisted of about one pint. Within three hours there was a sensible decrease in the quantity of blood within the urine, and within five hours there was no hemorrhage whatever within the conjunctiva. Under the action of three new injections, respectively of 300 and 500 cubic centimeters, with intervals of three days between each, all blood flow was arrested. Subcutaneous ecchymoses began to absorb, and the general condition of the patient underwent a distinct improvement. This writer thinks that not only did dilution of the poison by the salt solution avail, but also the well-known stimulation by it of all the emunctories of the body by which the toxins were thrown off.

Therapy of Nervous Affections of the Heart.—In most cases of cardiac neuroses, the physician will be called in to minister to the patient during the attack. It is then his duty, according to G. A. GIBSON (Edinb. Med. Jour., Nov., 1902), to ascertain if there be any attendant condition underlying the paroxysm. This considerable acidity of the stomach or moderate distention of the hollow viscera may be a reflex cause of the cardiac pain and interference with the blood-current through the lungs is an adequate agent in other cases. Of drugs, amyl nitrite is of the greatest usefulness in terminating many attacks; by some, butyl nitrite or ethyl iodide is preferred but all have the same disadvantage of occasionally causing headache and giddiness. The administration of powerful stimulants is often necessary and sometimes morphine or even general anesthetics, must follow these. Respiratory exercise is also useful during the paroxysm and there can be no doubt that deep respiration does to some extent alleviate the suffering in

many cases, especially where there is extreme arterial pressure or marked cyanosis. The employment of massage, in the case of patients who are unable to take much active exercise, is of the highest value. In organic types of the affection, the cause must, if possible, be removed by the use of alteratives, aided if necessary, by cardiac tonics and vaso-dilators. Among the alteratives none approach the iodides in value. If the potassium salt is not borne well, hydriodic acid may be used. In those cases of cardiac pain, resulting from previous debilitating disease, or from simple strain, the treatment is that of cardiac failure. In turning to the varieties of cardiac pain dependent upon toxic conditions, it may be easy to determine the nature of the poison, as in the angina pectoris following influenza, but, on the other hand, it may be very difficult to discover the secret poison in those forms which depend upon tobacco, alcohol, irregular gout, etc. Elimination of the poison, restoration of cardiac energy and strengthening of the general nervous tone are the three points to bear in mind here. Stimulation of the eliminative powers, baths, rest, with massage and passive exercise and strychnine do good. In the robust type of gouty diathesis, colchicum with the alkalis will be effective, in the asthenic type, guaiac with cinchona is helpful. In the reflex variety of angina pectoris, the cause of the disturbance must be removed and the bromides are in place. Vasomotor angina is most benefited by nitroglycerin and thyroid extract, and the neurasthenical and hysterical varieties yield to the general management of the conditions with which they are connected.

Human Actinomycosis in America.—All the reported cases of actinomycosis in man have been carefully studied by W. G. ERVING (Bull. J. Hopk. Hosp., Nov., 1902). The cases are scattered widely throughout the country, though most are reported from large medical centers. Less than 20 per cent. come from the Southern States. Males were affected about three times as often as females. The youngest case reported was a child six years old, the oldest a man of seventy; most are in middle life. Concerning occupation there is a wide range, but 36 per cent. had much to do with live stock and grain. The chronic character of the disease was well shown by the fact that in 62 per cent. it lasted over six months. Usually there was no definite history of infection. The clinical characteristics varied greatly with the region of the body involved. In the cervico-facial and cutaneous as well as in many of the thoracic and abdominal cases, the first symptoms noticed were pain and swelling, though the pain was not often severe and may be absent entirely. Fever above 101° F. is rare and examination of the blood shows a leucocytosis, averaging 17,000. Injections of tuberculin failed to give a febrile reaction. Cervico-facial cases are often mistaken at first for toothache, in thoracic forms the first symptoms are those of bronchitis or pleurisy and abdominal cases often resemble appendicitis. The diagnosis should never be positive without the finding of the organism which occurs in the sulphur granules of the abscess contents. Although the progress of the disease is sluggish, extension is prone to follow by direct involvement of the contiguous tissues or by metastases. The prognosis depends largely upon the location of the disease, the pulmonary cases showing the highest mortality, the cervico-facial the lowest. In a large proportion of cases treated surgically, repeated operations were necessary and the best results followed complete excision. The action of potassium iodide is merely to bring about a solution of the cellular infiltration about the abscess cavity; it probably has no specific action on the ray fungus, since this has been found in the body tissues after months of systematic treatment.

OBSTETRICS AND GYNECOLOGY.

Diagnosis by Vaginal Examination.—It has become the fashion of the day to underestimate the need for, and to exaggerate the risks of, vaginal examinations during labor. W. STEPHENSON (Brit. Jour. of Obstet. and Gyn., Nov., 1902), holds that it is in the interest of the patient and medical attendant alike, that one or more vaginal examinations are indispensable. There are risks of omission as well as commission, and inasmuch as we are cognizant of the dangers in examining the patient, care will reduce them to a minimum. The dictum that "all the obstetrician needs to know in normal cases can usually be learned by abdominal palpation and auscultation," is a false and pernicious teaching. The general practitioner knows better. From the author's experience, confirmed by the observations of others, the second and fourth positions occur mucn more frequently than is generally supposed. Possibly the relative frequency may vary in different localities, but it is more possible that a considerable "personal equation" must be taken into consideration in estimating the results. If anyone thinks that he meets with the fourth position (L. O. P.) in little more than one per cent. of cases, it is because he has yet to learn how to accurately diagnose them. Erroneous ideas as to the range of the fingers in the pelvis are traceable in the directions given whereby to diagnose the position of the fetal head. In the instructions the common mistake is to represent it as possible to reach both fontanelles during one examination, and occasionally they are said to be equally accessible. This is not the case.

If one fontanelle be found, the other is certain to be beyond range, or not accessible, being covered by the soft parts or being pressed against the pelvic wall. The second fontanelle can at times be reached, but only by increased pressure. The author directs that, after recognizing the position of the small fontanelle, the finger should then pass along the sagittal suture until it reaches the large fontanelle and recognizes the four sutures that enter it. It should then search for the ears, the mastoid processes and the lateral fontanelles, all of which may be found by following the lambdoid sutures to their terminations. So far as the facility of the mechanism is concerned, it matters little in which position the head may be lying, but it makes a great difference whether the head is flexed or not. Greater facility and precision in diagnosis of all the relations of the head to the pelvis can be attained by (1) keeping a clear distinction between a forced and an ordinary examination; (2) introducing the idea of a normal range of the fingers, and determining what that range is; (3) the use of clearly defined terms, employed always in the same sense. The diagnostic value of the normal range of the fingers depends upon the recognition of the following facts: (1) If the posterior wall and the sacrum be felt, it is a sure evidence that the pelvis is abnormal; (2) when the fingers are fully introduced in the mesial line, the tactile spot corresponds fairly with the central line of the pelvis; it is easy therefore to determine the exact position of the os; usually it is central, but at times displaced; (3) when the os is moderately dilated the fontanelles as a rule are not accessible, but the sagittal suture can generally be felt crossing the os; (4) when the os is more dilated, or if the finger be passed within the lip, a fontanelle may be felt, if the smaller the head is flexed; if the larger the head is somewhat extended; (5) only one fontanelle is within range at a time, the smaller indicates flexion, the larger insufficient flexion, or it may be extension of the head. The diagnosis of the location of the head is made as follows: First position (L. O. A.)—The small fontanelle is found in the left anterior,

the sagittal suture running backward in a right oblique diameter, the large fontanelle is beyond range. The second position (R. O. A.)—The sagittal suture lies in the left oblique diameter, but here it is often difficult to find any suture at all. The third position (L. O. P.)—Sagittal suture in right oblique diameter, but the large fontanelle lies in the left anterior. Insufficient flexion is the cause of delay in this position; should the small fontanelle be within range from the first, the mechanism is as easy as when the occiput is anterior. The fourth position (L. O. P.)—The sagittal suture runs in the left oblique diameter. Till the head is well flexed the small fontanelle in the left posterior is beyond range. With good flexion this may be mistaken for an L. O. A. Error may be avoided by carefully noting the direction of the sagittal suture.

Plastic Surgery of the Female Urethra.—Many methods of constructing this membranous canal have been tried, some of them with marked success; but the literature shows that the same method can rarely be applied twice, since each of the accidents happens in its own way, and calls for a new and specially devised operation. The author (H. P. NEWMAN, Am. Jour. of Obstet., Oct., 1902) gives a case, now under treatment at the Marion Sims Hospital, the progress of which, though satisfactory, has been tedious, and the patient has not entirely recovered. Case: Mrs. S. W., aged thirty-nine years, and has been married three years. There is a generally contracted pelvis with an ankylosed hip, resulting from a severe attack of Pott's disease in early childhood. Has had one full term child which was extracted forcibly through the narrow pelvis while the bladder was distended with urine. The floor of the bladder was torn and the urethra was laid open along its entire length. Six weeks later, the patient still being in bed, an attempt was made to repair the tear. This was repeated twice in the following year. Three months later the patient came to the author with a complete exstrophy of the bladder. Operation was performed: flaps were taken from the vulva on either side and after splitting the bladder and the vaginal wall, a considerable closure was accomplished by means of silverwire sutures, a drain or retention catheter being inserted in an opening behind the line of sutures and the patient being kept in an exaggerated dorsal position until the wound healed. One month later a second operation was done, still more of the bladder being closed. This operation permits the patient to retain her urine for a couple of hours. Unfortunately she left the hospital while the author was away from the city, and so the operation has never been finished. It is advised by the author that the uterine appendages be removed from the uterus, and the uterus turned on itself and then the torn bladder be so sewn about it that the uterus with its canal serve as new urethra. The writer has not tried this procedure, but believes that it would be most successful and efficacious.

Dermoid Cyst Complicating Labor.—Of the tumors of the lower abdomen and pelvis which may complicate labor, dermoid cyst is certainly a very uncommon one. A case of this class is reported by J. B. MACAULEY (The Lancet, Nov. 8, 1902). The primipara was twenty-seven years old; had been in labor about 10 hours when first seen; was suffering feeble pains, with a slowly dilating os, and a presenting in the left occipito-anterior position. The pains ceased that night, and the patient slept through it. Labor began again the next morning. On examination the patient showed little advance, but was visited every few hours that day, and in the evening the os was fully dilated, and the pains, although very severe, did not advance the head. Chloroform was administered, and the forceps applied, but, notwithstanding the use of these instruments, the head did not move appreciably. On relaxing traction on the instrument, without symptoms or warning there appeared at the pelvis a large cyst with a long pedicle. At first it suggested a cystocele, but a catheter did not withdraw urine from it. Then degeneration of the amnion was considered, together with that of placenta previa, because the cord had already prolapsed as if the placenta were situated low down. An incision was made in the cyst, and a large quantity of matted hair was removed. Then the cyst and its long pedicle were brought down and kept outside of the vulva by means of a ligature. The child was then delivered without difficulty, instrumentally. Death followed in the mother by peritonitis, in a few days, and, unfortunately, no autopsy was allowed, so that the precise origin of the cyst within the abdomen cannot be stated. Examination by the vagina seemed to show that traction with the forceps had caused the cyst to rupture through the cervix, and thus pass down the vagina.

Pelvic Disease in the Young and Unmarried.—Many of these disorders are purely functional, others are only symptomatic of some constitutional trouble, and C. L. BONIFIELD thinks that the treatment of them can be safely left to the family physician (Am. Gyn., Oct., 1902). Such patients should not be subjected to local examination and treatment until reasonable effort has been made to relieve them by other methods. Among the affections that most commonly bring this class of patients to the gynecologist may be mentioned the disorders of menstruation, the undeveloped uterus, tubercular disease of the appendages and acute displacements. Menstruation may be tardy in making its first appearance. Unless there be marked local symptoms or function be many years behind time, there is no necessity for local examination. The careful physician should determine whether the function is really late or only apparently so. Such cases are nearly always anemic. A most careful inquiry must be made into the condition of the general health and if the patient's mode of living be harmful it should be corrected. Good health at puberty is most essential to the proper development of the uterus and ovaries. The uterus that begins to menstruate late, ceases to do so early, showing a lack of vitality. Amenorrhea is one of the early symptoms of phthisis. Obesity frequently lessens and sometimes stops menstruation. The treatment is dietetic and a strenuous life. Ovarian extract is sometimes of value. Dysmenorrhea may be of uterine, tubal or of constitutional origin. In the young or the unmarried, it is most liable to be due to constitutional causes. Anemia, chlorosis, malnutrition, syphilis and rheumatism are a few of the more common constitutional conditions that make menstruation painful. Flexion, version, and a narrowed cervical canal play an important but still subordinate rôle in the production of dysmenorrhea. It is not until an endometritis is superimposed that dysmenorrhea develops. The malposition is but a predisposing cause of the endometritis. By proper hygienic treatment a majority of the cases can be cured without resort to local treatment. Operative procedure is the only local treatment to be thought of. Tubercular disease of the tubes may be the cause of dysmenorrhea. Other tubal disease practically does not occur in the young or unmarried. Ovarian dysmenorrhea is not rare in such patients, though many cases are diagnosed as ovarian, which are really constitutional. Imperfectly developed ovaries, prolapsed ovaries, or ovaries which have undergone cystic degeneration produce true ovarian dysmenorrhea. The author has cured ovarian dysmenorrhea by freeing the right ovary from adhesions to the appendix. Menstruation from the infantile uterus is tardy in making its appearance, is scant and usually painful. Efforts may be made

to develop it, but with small hope of ultimate success. Primary tuberculosis of the appendages usually begins at the fimbriated extremity of the tube. The diagnosis may be made by recognizing the enlarged tube and excluding gonorrheal and streptococcic infection. The treatment is extirpation. Acute prolapse of the uterus may occur in the young or unmarried as the result of a fall or heavy lifting. Like hernia it occurs in individuals of lax fiber. Ventrofixation is probably the best treatment.

Inversion of the Uterus.—An interesting case of complete inversion of the uterus of seven months' duration is reported by J. W. TAYLOR (Brit. Jour. of Obstet. and Gyn., Nov., 1902). Mrs. E. G., aged thirty-nine years, was delivered of her first child, Feb. 9, 1899. No instruments were used, but she had great hemorrhage at the time of her confinement. The child was not suckled. The first menstruation after delivery began about the middle of March. The patient flooded for 10 days, and was very weak afterward. Up to five weeks later, she was never free from some bleeding, when she had a still greater hemorrhage. During all this time no examination was made to ascertain the cause of the flow. On Sept. 15 the patient was carried to a hospital with the symptoms of exsanguination. A large tumor was then seen to be the cause of the flow. This was demonstrated to be the uterus, completely inverted. After some days of rest and supportive treatment, the Lawson Tait method of reducing the inversion was tried but with no success. Various other schemes were tried but as no instrument could be found to hold the uterus up, operation was decided upon. By tracing the uterine tissues well upward the probable site of the cervix was made out. An anterior colpotomy was done. This incision almost immediately showed the cup of the inversion, for the uterus appeared to have detached itself from its usual union with the bladder. The peritoneum was pushed up, and the anterior margin of the cervix seized on each of the middle line by volsella, while the uterus was cut up between them with long straight scissors. This opened the peritoneum and the appendages were seen to be within the cup of the inverted uterus. One ovary was resting on the margin of the cup. The appendages had already contracted some adhesions, but these were separated and the inversion reduced. When this was effected a rather peculiar difficulty presented itself. The inversion had existed so long that the peritoneal surface of the uterus which formed the inner surface of the cup had become considerably smaller than the mucous surface, and when reinverted or replaced and the thickness of the muscle wall, being larger, bulged through the incision, preventing the apposition of the peritoneal edges. The operator brought the sides of the incision together by a close fine suture of sterilized silk, but with considerable bulging of the middle of the wound. A gauze drain was left in this spot, resting between the uterus and the bladder. After a week the wound suppurated, and because of the bad condition of the patient, hysterectomy was thought of. The continuous suture was removed, however, and the patient slowly recovered. One year later there was no trace of her trouble to be found.

The Vaginal Secretion in Pregnancy.—The bacteriological relations in the vaginal secretions during pregnancy are still topics for very divergent views. The only investigation which will in time solve this problem is one that includes a knowledge of all bacteria found in the vagina. In a series of researches, H. BERGHOLM (Arch. f. Gynäk., Vol. 66, No. 3) has endeavored to answer two questions: (1) Whether in the vaginal secretion of pregnancy there are found the common pyogenic varieties of streptococcus, staphylococcus, and colon bacillus, and (2) what is the nature of the bacteria usually found in this secretion? The examinations were conducted on 40 patients in the later stages, on whom no previous douching or manipulation had been done. Specimens were secured under special precautions and cultures made on various media. In summarizing the results, the author found the secretion of an acid reaction, the degree of which varied within extended limits. Flat epithelial cells, leucocytes and micro-organisms were found in varying proportions, but a division into normal and pathological secretions was not found practicable. The micro-organisms found showed few changes in form and seemed to grow best under anaerobic conditions. The greater number also grew in air, especially on acid media, but a few were obligate anaerobics. The only forms which did better under aerobic conditions were saccharomyces and a few bacilli. The micro-organisms commonly found were not pathogenic to animals. Neither staphylococcus pyogenes aureus or albus, streptococcus pyogenes, or bacterium coli were encountered. The flora of the vulvar secretion is markedly different from that of the vaginal. In most cases the bacteria of the former grow best in alkaline media in air, and the usual varieties are the staphylococcus cereus albus and bacterium coli communis.

Pregnancy Developing in a Tubular Diverticulum.—A most interesting case of this variety is reported by DEMONS and FIEUX (Annal. de Gynéc. et d'Obstet., Oct.-Nov., 1902). The patient was a young woman aged twenty-four years, always had had fairly good health, except for a condition of chronic constipation. Five years of marriage passed without the slightest evidence of pregnancy until finally, on April 25, menstruation ceased and toward the end of September, morning sickness, tingling of the breasts and other signs confirmed the suspicion of pregnancy. On the evening of the eighth of November, the patient got up to void her urine, and during the effort of micturition she was seized with a very sharp pain in the pit of the stomach, and later, there followed pallor and coldness of the extremities, still later, a tendency to syncope. The pulse became very rapid and small. Bimanual palpation showed the uterus somewhat enlarged and deflected to the right and the cervix softened. On the left one could feel a tumor mass attached to the uterus about the size of an orange, which was painful on palpation. The diagnosis of a ruptured extra-uterine pregnancy was made and operation decided upon. The abdomen was opened and the diagnosis was confirmed on the removal of the left tube, ovary and an embryo-containing sac. The appendages showed no pathologic changes except for a slight congestion. The examination of the mass showed that the ovum had become implanted upon the mucous membrane of a small diverticulum on the left tube, and there was developed the membranes outside of the diverticulum enveloping the tube and ovary. This mass had become adherent to the surrounding pelvic structures. The patient made a rapid and uneventful recovery.

Ectopic Gestation.—The origin of ectopic gestation has been carefully sought for during many years and appears likely to afford a field for controversy for some time to come, since it cannot be decided until we know where the ovum becomes impregnated and what is the nature of the site required for its implantation and growth, whether impregnation occurs in the uterus, tube or ovary, and whether or not it requires a healthy mucosa or a surface more or less completely denuded of this membrane for its implantation. It is rare, says F. A. L. LOCKHART (Amer. Gynec., October, 1902), to see a specimen until the anatomic relations of the parts have become so distorted by stretching, rupture and hemor-

rhage, and the history of previous attacks of venereal disease, is so very difficult to obtain, that it is almost impossible to arrive at any conclusion as to the cause of the inflammation. The symptoms of an unruptured ectopic gestation are, as a rule, so slight and vague that the patient seldom seeks medical advice. Sinclair reports a case in which the patient went to the sixth month without rupture. The author has a case at the fifth month of gestation which ruptured but was operated upon and recovered. It must be remembered that neither the presence of normal menstruation nor the absence of a discharge of blood from the uterus can be regarded as an absolute sign that the case is not one of ectopic gestation. Tubal abortion can, of course, occur only in the earlier months when the ovum is implanted near the outer end of the tube, which has not yet been closed. The symptoms of this condition are practically the same as those of rupture and just as in the uterine variety it may be either complete or incomplete, both being equally dangerous. There is, however, more tenderness over the abdomen than in the case of a ruptured sac. Ruptured ectopic gestation may simulate: (1) Uterine pregnancy with threatened abortion; (2) pus-tube, which leaked out and set up a localized peritonitis; (3) tumor with a twisted pedicle, but this will give a much firmer and more resistant mass; (4) pelvic hematocele, but this is usually due to a ruptured gestation sac; (5) pregnancy in a rudimentary horn of the uterus demands the same treatment, so that its differentiation is unnecessary, if not interfered with, the prognosis of ectopic gestation is without doubt exceedingly grave. Champneys reports 75 cases of ectopic gestation (including pelvic hematocele), out of which 34 or 45.3 per cent. were not interfered with, all recovering; 26.92 per cent. of those operated on by the abdominal method died. The treatment will vary according to circumstances. Champneys' rules are: (1) Cases of early, unruptured living tubal gestation should be operated on without delay; (2) cases of rupture into the peritoneal cavity, without diffuse hemorrhage, should be dealt with according to circumstances, (*a*) if hemorrhage still continues when they come under observation some cases ought to be subjected to operation, taking into consideration the probability of limitation and encapsulation of the blood-containing sac and the state of the patient at the time; (*b*) if seen after hemorrhage has ceased, they should be treated expectantly. (3) Cases in which the blood has been encapsulated by adhesion or by the broad ligament should be treated expectantly. (4) Hematoceles which refuse to be absorbed in a reasonable time should be opened, emptied and drained. These rules are excellent, but practically difficult to follow. The immediate rupture is to be treated by placing the patient in the recumbent position with the pelvis higher than the head, the local application of ice to the lower abdomen, and the administration of a dose of morphine (¼ gr.). The lower limbs may be required to be bandaged. All stimulants are absolutely contraindicated. If, however, a stimulant is required, none but normal saline per rectum is indicated, since it simply takes the place of the blood lost, and is less liable to be followed by a resumption of the hemorrhage than when alcohol is used. As to the choice of routes for the operation the one that permits of the most room and convenience in reaching the seat of trouble is the best one, whether it be the abdominal or the vaginal. In the case of a pelvic hematocele which will not resolve under hot douching, rest, etc., the best treatment is to incise it thoroughly per vaginam, wash out the clots by means of a gently flowing stream of salt solution and drain. Some operators claim that in order to prevent a recurrence of this condition one should sterilize the patient by removing both sets of appendages. This is a wholly unjustifiable proceeding, as perfectly normal pregnancy may follow ectopic gestation.

Shortening the Round Ligaments Per Vaginam.—It is necessary to understand the dynamics of the female pelvis in order to discover, when such a pathologic condition as retrodisplacement of the uterus exists, wherein Nature has slipped a cog, as it were, and upset the balance of force, remarks J. RIDDLE GOFFE, in writing of the condition (Am. Gynec., Oct., 1902). When this knowledge has been gained the problem of repairing the damage along rational lines is before us. The great principle that Nature has invoked or applied in retaining the organs of the human body in normal position is that of supension by ligaments. There is no reason to suppose that Nature has made an exception in the case of the uterus, and indeed upon inspection we find that no organ in the body has so many ligaments as the uterus. It is logical to infer, therefore, that when the uterus has gotten out of its normal position, something is wrong with the ligaments, and it is equally logical to assume that to restore the uterus to its normal position and maintain it there the ligaments afford the proper tissue for such a purpose. The utero-sacral ligaments are the most important in supporting the uterus. It is to some malign influence affecting these ligaments that one should seek for the cause of retrodisplacements of the uterus, and, consequently to the repair of them that one must look for a restoration of the function of the uterus to its normal condition. The round ligaments when shortened at the external abdominal ring are efficient in retaining the uterus in its normal position when applied to cases of retrodisplacement uncomplicated by inflammatory processes. In a series of 130 cases treated in this manner, the author has had but two failures and these were due to attempts to modify the routine operation. Ten of these 130 cases have become pregnant and eight have gone onto full term, the pregnancies resulting most comfortably and satisfactorily, the uterus remaining in a proper position thereafter. Of the miscarriages, one was a syphilitic negress and in the other the cause could not be learned. In the author's experience the most frequent cause of retrodisplacement is some suppurative disease in the appendages either active, subacute or passive, involving from 75 to 80 per cent. of the cases coming under the author's observation requiring operation for this affection. The Alexander operation is applicable to an extremely small number of cases, hence it becomes necessary to open the peritoneal cavity and the question arises, shall it be done through the vagina or shall it be done through the abdomen. The author prefers the former route. In six years' experience but few cases have arisen in which this could not be said to be the proper route of attacking the trouble.

The Vaginal Route.—This method of operation is of especial advantage in operating upon the uterine appendages, according to J. M. BRANHAM (Am. Jour. of Obstet., Nov., 1902). The author has successfully employed it in (1) pelvic inflammations (2) neoplasms, (3) myomata, (4) extra-uterine pregnancy. Here it is of especial advantage. If the case is of several days' standing and an elevated temperature would indicate that there existed an infection, vaginal drainage is the natural method; it is by far the more effective and the safer. Extensive inflammation associated with pus formation rapidly walls off the general peritoneum; this wall should not be broken through and can not be interfered with without danger of general peritonitis. Opening through the vagina is associated with a minimum amount of shock and hemorrhage, and thus indicated in severe cases associated with severe toxic symptoms. While freer dissection in the lateral plane (pelvic) for infiltration complicating uterine cancer, through the ab-

dominal route can be made, yet the less thorough dissection of the surrounding vaginal wall, and the greater danger the transplantation (operative) with increased mortality due to shock and infection by it render vaginal hysterectomy the safer operation and the one to be advised in most cases.

Treatment of Pelvic Abscess.—The gonococcus travels by the route of the mucous membrane only, while the streptococcus and staphilococcus—which are the ordinary pus-producing organisms—may take either channel. Consequently one may have pus in the pelvis as the result of an extension of a gonorrheal infection, of postpartum, and postpuerperal processes, of traumas, of injuries of the cervix and the body of the uterus, resulting from accidents occurring during labor, and of careless surgical interference and intra-uterine manipulations, says HERMAN E. HAYD (Am. Jour. of Obstet., Nov., 1902). These infections may produce a primary tubal and ovarian abscess with secondary localized purulent peritonitis, or by way of the lymphatics, suppurating foci in the broad ligament, or even an abscess between its folds or in the lymphatic network between the vagina and the bladder, or it may extend to the peritoneum and produce a collection of pus in the free pelvis, or an ovarian abscess, or even a secondary tubal abscess. A pure gonorrheal infection is not common; the pathology is usually the result of a mixed infection. There is evidently some susceptibility on the part of the individual tissues and structures which explains these different expressions of infection. Nature, by her beautiful protective processes, shields herself from the approach of pus by making dense barriers of adhesions, and as a rule confines the suppuration to certain definite areas. If it were possible to locate these points and to establish drainage through the vagina, the acute trouble would soon subside and the reparative processes begin. Unfortunately these pus cavities are not often located; some are drained, while others are left unopened, and others are lined with a secreting membrane, and continue to discharge pus just so long as these membranes are left in situ. The advocates of the vaginal method of operating attack all these cases, with but few limitations, from below, and they presuppose a diagnostic ability, which we all know that none of them possess. Kelly reports a number of cases of puncture in localized tube and ovarian pus collections, per vaginam. Not only did all these cases recover, but the tubes and ovaries got well and functionated. The author was not so fortunate in his cases, for in some of them, after spaces of time varying in length from a few weeks to two years, abdominal section was necessary to relieve these patients from the subsequent suffering and chronic invalidism due to adhesions. There is a class of cases in which vaginal drainage supplemented with curettage, when indicated, should first be employed to get rid of the free pus, and then later an abdominal section should be made to cure the patient of her suffering. In streptococcic infections the author strongly recommends an early vaginal incision for the purpose of draining off all the free pus, and, if necessary, extend the incision to one or both sides and evacuate a tubal or ovarian abscess, if easily reached. The author doubts the wisdom of operating on acutely sick women with high temperature and marked constitutional disturbances, by abdominal section, but rather to drain first, and operate later. By this procedure, the temperature usually falls to normal and the general condition of the patient is improved. If the temperature continues high, do an abdominal section immediately. All pus collections in the pelvis are not dangerous, in fact, most old collections are sterile. The mere opening of an abdomen is not dangerous, so far as the immediate mortality is concerned, but it is the dangers from the remote complications which would make the vaginal route preferable, provided we could establish a satisfactory diagnosis and be able to work with assurance and confidence. But this is impossible, and there must therefore always be cases attacked per abdomen, while others are best reached per vaginam, backed up by the individual qualifications of the operator.

Cesarian Section.—After reporting a very interesting case of Cesarian section for a flattened pelvis, JOHN W. MARTIN (Brit. Jour. of Obstet. and Gyn., Nov., 1902), concludes that the operation can be recommended with confidence, in all cases where the pelvic measurements are such as to render the delivery of a living child improbable. In such cases, however, one should not wait until the patient has become exhausted by an already prolonged labor. In regard to sterilization, there is at the present a divided opinion as to the production of such a condition. The author admits that there is force in the arguments of those who point to the successful repetition of the operation, but it is just as well that the feelings of the patient be considered, as she will naturally look with no great pleasure at the thought of having to go through the ordeal of a second operation of this character. With Dr. Raw, the author would not hesitate a moment in the case of a married woman, but would most decidedly hesitate were the patient unmarried. If two people have the good fortune to be happily mated, the life of the woman is far too valuable to the husband to be lightly risked for the sake of a possible increase in the family, in the face of risks of what must always remain a fairly serious operation. But when one bears in mind the splendid results obtained by many surgeons with this operation, one cannot help feeling that there is a brilliant future for this procedure. Craniotomy and cephalotripsy, with the dragging of a mutilated fetus through the narrowed opening of a deformed pelvis, etc., will soon have passed into antiquity.

The Transmission of Chorionic Villi.—These have frequently been observed in metastatic deposits following a cystic mole or carcinoma at the placental site in pregnant women. A satisfactory explanation of their occurrence in such cases has heretofore never been presented and in investigating this subject the question would naturally arise whether analogous conditions may not be found in other pregnant states. W. POTEN (Arch. f. Gynec., Vol. 66, No. 3) has recently published the results of his investigations in this field. He has carefully studied a series of sections of gravid uteri, seven in number and varying in period from two to nine months. His observations are worthy of note. In all cases, even with a normal placental attachment, it was possible to demonstrate the presence of detached chronic villi in the maternal blood-vessels in numbers varying greatly in the different cases. No evidences were found which would warrant the belief that in normal cases these migrating villi had any effect on the fluid character of the blood. No changes in the vessel walls in the neighborhood of the particle and no clotting could be detected. True emboli however could be formed after passing the heart, in the pulmonary arterioles and capillaries, as the greater number are undoubtedly carried to this locality. During the act of coughing or during a bearing down pain the venous stream may be halted or momentarily reversed, and at this time a few particles may get into the peripheral veins which would account for their occasional presence in vaginal nodules. The etiological factors which induce these conditions remain as yet a matter of doubt. The villi in certain cases may be more brittle or the placental attachment insecure but the author inclines to the theory that changes in the blood-pressure constitute the principal cause. This is

manifested by stasis and eddies in the blood of the maternal sinuses by which the floating villi may be torn away. Eclamptic conditions would appear as most likely factors in causing this phenomenon but in two specimens derived from such cases only a moderate number of migrating villi were found. Strange to say the largest number were seen in sections of a uterus from a case which had died from hemorrhage resulting from placenta previa, that is to say, with a diminished blood-pressure. These contradictory results do not permit at present a definite knowledge of the true etiology of this condition. It appears, however, that the transmission of these separated masses of villi in the maternal blood-stream is liable to occur in the course of any pregnancy, but must not be considered of physiological or even of pathological significance. The disintegration in the blood-stream without any resulting symptoms is probably the ultimate fate of these minute tissue particles. The author believes however that syphilitic infection of either mother or child may be induced by this means. The villi have been observed to contain fetal blood which would naturally be set free in the maternal circulation when the former are disintegrated. If the fetus is syphilitic, the virus could thus be readily transmitted. In the same way the blood of the mother, who has become syphilitic during her pregnancy, could infect the fetus by contact at the points where the villi have been torn away. The observations also explain how in cases of malignant degeneration of the chorion, such as cystic moles and syncitial cancer these migrating villi may cause metastatic deposits in other parts of the maternal organism.

The Hydatid Mole.—This remarkable pathological change in a pregnancy must have always struck the practitioner, and, indeed, has been known for a long time. According to D. BERRY HART (Brit. Jour. of Obstet. and Gyn., Nov., 1902), it has long since been known that deciduoma and malignum follows hydatid mole in about 50 per cent. of all cases. What is the nature of hydatid mole? Is there a malignant and a simple form of the mole? Can we tell histologically what form will develop malignant disease? The questions must be considered from the following standpoints: (1) The structure of the early normal villus; (2) the naked eye and microscopic structure of the hydatid mole; (3) the clinical features of hydatid mole; (4) its relations to diciduoma malignum; (5) possible nature of hydatid mole and its relation to diciduoma malignum; (6) can we ascertain by microscopic examination the mole, or of its curettage fragments after abortion whether diciduoma will develop ultimately? Normally, the early villus has a double epithelial covering, Langerhans' layer and syncytian. These can absorb dicidual tissue penetrating into it, can pass into blood-vessels without coagulating the blood; while normally, their progress is always marked by the condensed layed (Nitabuch's fibrin layer). Finally, both epithelial mantel and connestive tissue core, which approximate the Whartonian jelly in structure, differentiate in the normal placenta, the syncytium gradually thinning, the cells of Langerhans becoming more flattened, while the connective tissue loses its myxomatous type and becomes more fibrous. With hydatid mole there is no fetus present. The membranes alone may be degenerated, the placenta healthy. When we have a fetus, a placenta and a hydatid mole together, the case has been probably a twin, where one of the ova has been fertilized and the other become a mole. The absence of a fetus is a great fact, not hitherto appreciated. Hydatid mole is rare, estimates varying from 14 in 10,200 cases (1 in 728, König, quoted by Gebhard, and 1 in 2,400, St. Bartholomew's statistics, quoted by Williamson). Hydatid mole has been found in the tube, and also in the paravaginal tissue, the latter is a metastasis, but such rare conditions are only diagnosible by operation. Diciduoma in about half the reported cases is preceded by hydatid mole. Virchow termed the mole "myxoma chorii." The author believes that the term diciduoma should be changed to metastatic mole. The proportion of cases of diciduoma malignum following a mole is very low, hence it would be wrong to extirpate the uterus in every case of mole. There is nothing in the microscopic examination of a mole to determine that it will become a case of diciduoma malignum.

PHYSIOLOGY.

The Importance of Sodium Chloride in Heart Activity.—That the activity of the heart is dependent on certain blood-salts, has for some time been held generally by physiologists. Loeb has assigned to sodium chloride the first importance in originating rhythmical cardiac contraction. Although Howell, Ringer and others give this place to calcium, D. J. LINGLE (Am. Jour. Physiol., Nov. 1, 1902) finds that sodium chloride is absolutely necessary for the origination of rhythmical activity in heart-strips. Agencies like caffeine that can intensify rhythmical activity cannot originate it. What has been described as the sodium-chloride arrest, is probably due to a lack of oxygen in the salt solution. The presence of oxygen in these postpones its development and starts the rhythms again. Ordinary salt solutions do not contain enough oxygen for the normal activity of heart-strips. Oxygen gas and sodium chloride, if properly used, will keep strips beating as long as a mixture of salt solution. Oxygen gas has a powerful influence on rhythmic power, but is of itself powerless to originate rhythms. Oxalate solution that precipitates calcium will permit beats to begin if sodium chloride is present.

Effect of Temporary Ischemia of the Parathyroids.—Through compression of the efferent and afferent vessels of the parathyroids, C. PINTO (Rif. Med., Oct. 21, 1902) has arrived at some interesting conclusions concerning the effect of ischemia upon those organs. Depression and hyperthermia resulted from the maintenance of ischemia from 90 minutes to six hours; and if prolonged to 16 hours, conjunctivitis, polyuria, tremor and muscular twitching appeared. When ischemia was maintained 16 to 31 hours symptoms identical with those seen after parathyroidectomy—tetanic manifestations, cachexia or both were noted. Examination of parathyroids so treated showed epithelial degeneration as the principal histological change. From the fact that clinical and degenerative symptoms appear earlier in parathyroids subjected to this treatment than in thyroids, the author concludes that the former are less resistant than the thyroids.

The Vesical Mucosa's Power of Absorption and Elimination.—This question has been studied experimentally upon dogs by M. BUCCO (Gazz. Osped., Oct. 26, 1902), who tested the power of absorption by injection into the bladder, after ligature of the ureters, of various substances, among which may be mentioned potassium iodide; indication of the absorption of this substance by the mucosa being seen in the reaction of the saliva to iodine tests within 20 minutes. Subcutaneous injection of methylene blue and potassium iodide, preceded by ligature of the ureters and followed by injection of physiological salt solution into the normal and diseased bladder, showed by the absence of these substances from the liquid subsequently withdrawn, at intervals, from the bladder, that elimination does not occur through the vesical mucosa.

Action of Acids on Blood Corpuscles.—Acids and acid salts cause, according to S. PESKIND (Am. Jour. Physiol., Nov. 1, 1902), immediate agglutination and precipitation of the blood corpuscles. The serum con-

stituents play no part in this reaction since serum-free corpuscles are likewise agglutinated and precipitated by the same reagents. The reaction is due to an effect of the reagents on the stromata of the corpuscles, since if the serum-free corpuscles are laked by any hemolytic agent, *e.g.*, sapotoxin, and to this solution of blood corpuscles a trace of any of the precipitants is added, the ghosts are agglutinated and precipitated, settling very rapidly. The constituents of the stromata are lecithin, cholesterin and a globulin, which exists in all probability as alkali-globulin. If blood corpuscles are laked by ether, the lecithin and cholesterin are dissolved out of the stromata, yet the addition of any of the reagents still causes the precipitation of the ghosts. Therefore neither the lecithin nor the cholesterin is concerned in the production of this reaction, which would thus appear to be brought about by some action on the alkali-globulin. This conclusion is strengthened by the fact that the reagents are also precipitants of alkali-globulin and alkali-albumin. Leucocytes thoroughly washed are strikingly agglutinated and precipitated by the same reagents which act on red blood corpuscles. Halliburton has shown that leucocytes contain the same globulin (B. globulin) as the stromata of the red blood cells. This substance has fibrinoplastic properties. The reaction in the case of the leucocytes is in all probability due to a combination of the B. globulin with the reagents. This B. globulin is a constituent of all typical cells (cells of liver, kidney, etc.); the author, reasoning by analogy, believes that this globulin forms part of the framework or at least the envelope of all these typical cells. If this be so then the reaction (agglutination, precipitation) must show itself to be of general nature and not confined to blood corpuscles. On trial this is found actually to be the case. Spermatozoa, yeast cells, bacilli, the mycelia and spores of a fungus and ciliated epithelium were all found to give this reaction.

The Antagonists of Curarin.—It has been shown by C. J. ROTHBERGER that curare and physostigmin have a twofold antagonism to each other. In a further series of researches (Pflüger's Archiv, Oct. 23, 1902) he finds that there are a number of other antagonists to curare, which are however less so than physostigmin. One of these is nicotin. Muscles already paralyzed by injections of curare are again rendered excitable by the use of larger doses of nicotin. Small doses of the latter are capable of restoring the respiration, at least in part, when this has been paralyzed by curare. The effect of nicotin is too weak to restore completely a curarized animal. Likewise guanidin can be regarded as an antagonist of curare, since the former restores spontaneous respiration and the excitability of the intramuscular nerve-endings after the use of curare. Besides the components antagonistic to curarin, guanidin contains also a substance highly toxic to the circulatory organs and to this cause is to be attributed the fact that the complete restoration of curarized animals, as is possible by the use of physostigmin, cannot be effected by the use of guanidin. Between curarin and veratrin there is a decided twofold antagonism, which manifests itself in the restoration of the excitability of the sciatic nerve and the recommencement of respiration. Complete restoration of the curarized animal by means of veratrin is however impossible, since the latter is highly toxic to the circulatory organs. Another antagonist of curarin is tetraethylammoniumiodide. Likewise all the members of the phenol ring so far investigated are antagonists of curare. Such are phenol, di- and trioxybenzol as well as the three cresols. The most efficient bodies are hydrochinon, resorcin, pyrogallol and oxydrochinon. The remaining bodies, particularly phenol, pyrocatechin and the cresols are much less effective and by damaging the circulation present the possibility of causing survival of the animal. Phloroglucin is the weakest antagonist of curare. Pyrocatechin, hydrochinon and pyrogallol alter the blood by the formation of methemoglobin and thus damage the respiration of the tissues and prevent the possibility of resuscitating the animal. Negative results were obtained with suprarenal extracts, ergotin, pyridin, strychnine, apomorphine, ammonia, colchicine and aconitine.

Influence of the Contents of the Colon on Strychnine.—Finding that repeated dosage of strychnine produced no cumulative poisoning in dogs whose kidneys had been removed, W. SALANT (C'blatt f. Inn. Med., Nov. 1, 1902), under Meltzer's direction, was surprised to find that apparently the poison was not eliminated by the feces. However, on adding one gram of strychnine to the feces he was still unable to detect strychnine by his tests, though strychnine has often been demonstrated in the alimentary tract in medico-legal cases. He therefore removed contents of the tract at three different places, the stomach, small intestine and colon. One milligram of the poison added to the stomach contents was readily demonstrable; added to the contents of the small intestine, demonstrable; added to the contents of the large intestine, no tests obtained. The conclusion, therefore, is that the large intestine contains something that can change a given amount of strychnine so that it cannot be recognized by existing tests.

Effect of Extirpation of the Medulla of the Suprarenal Capsule.—The effects noted in rabbits and cats subjected to this operation are thus described by G. VASSALE and A. ZANFROGNINI (Rif. Med., Oct. 31, 1902). When the medulla was entirely destroyed and the cortical portion left intact, the animals died in a short time with the acute symptoms seen after extirpation of the suprarenals. If, however, some part of the medulla were left, life was prolonged from three to four weeks with symptoms of a special cachexia (anorexia, psychic depression, lowered temperature and marked loss of flesh). The authors deduce from these experiments that a specific function of vital importance depends upon the integrity of the medulla of the suprarenal capsule. Further investigations are to be carried on with the view of ascertaining the rôle—apparently a minor one—of the cortical portion.

GENITO-URINARY AND SKIN DISEASES.

Erysipelas and Antidiphtheritic Serum.—The good results obtained by Talamon, reported in 1901, by using antidiphtheritic serum in some forms of pneumonia tend to show that the good effects of the serum in diphtheria are not due exclusively to a specific action upon the diphtheritic toxin. Recently it has been proposed to use these same injections against infectious diseases other than diphtheria, and in particular erysipelas. G. K. SHAPIRO (La Sem. Méd., Oct. 1, 1902) made an experiment of this kind upon a patient suffering from intense traumatic erysipelas. The man was thirty-two years old. His erysipelas had resisted ichthyol ointment, 20 per cent. strength, and the usual internal medication. On the other hand, two injections of 10 c.c. each of antidiphtheritic serum brought about a rapid improvement and, finally, a complete cure.

Argyrol in Acute Gonorrhea.—The attempt during recent years in perfecting the methods of treating acute gonorrhea has been to obtain some drug which would have a strong germicidal action upon the gonococcus, would penetrate the mucous membrane without forming chemical combinations and still would be non-irritating. Several silver preparations have been offered to the public professing to possess the above qualities and undoubtedly considerable advance has been made. More recently a preparation known as argyrol, which is a

silver salt containing about 30 per cent. of silver, has been placed upon the market by Dr. A. C. Barnes and after a thorough investigation of its action, G. K. SWINBURNE (Med. Rec., Oct. 11, 1902) speaks very highly of it. It stains badly, however, but the stains may be removed if put into boiling water at once or if treated with a saturated solution of potassium iodide they may then be easily washed out. He uses it by irrigation in strength of 1-2,000 up to 1-500, using one quart at a time without irritating effects. Injections of one to five per cent. cause no discomfort and his usual method is to follow an irrigation with an injection of the latter strength and allow the patient to use a two-per-cent. solution two or three times a day at home. A 20-per-cent. solution has been used in a few cases to attempt an abortion of the disease and even in that strength the irritation was slight. Its gonococcidal powers are very satisfactory.

Sclerema Edematosum.—During a period of two years A. BUSCHKE (Berl. klin. Woch., Oct. 13, 1902) has been able to watch the involution of a marked, deep-lying edema which developed in an otherwise healthy man aged forty-six years, following an attack of influenza. The superficial layers of the skin were not permanently altered in consequence of the sclerema; only about the face was any permanent change left, and here there was only a moderate thickening of the deeper layers of the skin. Buschke remarks that there apparently exists a form of disease which at an early stage of its development resembles scleroderma, but really is a disease *sui generis*. Blaschko admits that in contradistinction to scleroderma the disease described by Buschke is characterized by a deeper-lying edema, but he is inclined merely to make a subdivision of the class scleroderma, calling the type of Buschke sclerofascia and the other type scleroderma. In scleroderma, however, while involution of the edema occurs, it is succeeded by the peculiar atrophy of that disease, often associated with pigmentation; the original edema, of course, infiltrates the superficial strata. Senator, concerning the pathogenesis of the sclerema described by Buschke, has shown that vascular disease often succeeds influenza, and in this instance there is probably a diffuse affection of the lymphatic vessels. The disease in question should not be confounded with the sclerema occurring in children; the latter is a very severe, perhaps septic affection, usually fatal.

HYGIENE.

Rats and the Plague.—The following notes on the outbreak of the plague in Elizabethport during 1901 are contributed for the purpose of showing the part played by rats in the spread of the disease by W. J. BLACKMORE (The Lancet, Oct. 11, 1902). He details 33 cases in which the history seems to be indubitable that rats did cause disease. The evidence upon which this suggestion lies are the following four points, taken from his general analysis of these cases: (1) Relatives of patients did not contract the disease. In only one instance did two members of the same family have it. Here, infection from one to the other is negatived by the fact that the second was not taken ill until 20 days after contact with the first, but both worked at the same place, which was shown to contain infected rats. (2) "Contacts" did not contract plague. In only two cases did "contacts" among these 33 contract it, and then only the fourteenth day after exposure did the disease appear. Both of these patients also worked and slept in the same building, infected with diseased rats. (3) Neighbors of the plague patients did not contract the disease. Had the infection been from man to man, the house in which a plague patient lived would have shown itself a center of infection, by persons living in the adjoining houses and who frequented the patient's house becoming infected, but this never occurred except when dead rats were found in the patient's house. (4) The dwelling-houses of the patients were widely separated, but nearly all worked in the same rat-infested area. The 33 cases were widely scattered over the town, as regards dwelling-places, and it is notable that persons having had contact with the patients did not take the disease. Twenty-nine of the 33 individuals worked in that area of the town which was proved by bacteriological examination to contain diseased rats, and it was only after these rats had made their way into the residential portion of the town that cases of the plague began to appear among persons who did not work in the previously named rat-infected business portion. Of the first 23 cases, only one person did not live in this part of the city. He was a colored person, the only one of the entire number who worked in the same place as he lived, and contracted the plague there. As the infected rats were traced to the residential portion, cases began to occur among people who did not even work in the town. This is shown by the fact that out of the next 21 cases, eight were in children less than thirteen years old. In no case did any of the relatives of "contacts" in these eight cases contract plague, while in all cases dead rats, some proved to be "infected" were found either in the house in which the patient lived, or in their vicinity. As to the means of communication from the rats to man, he points out that there seems to be a certain number of cases which were infected merely through rats infesting the same abode. Other cases undoubtedly received the disease by handling rats which were dead. There is good reason to believe that the intermediary which is most active is the flea of the rat. This flea leaves the body as soon as the rat dies, and the plague microbe has been found in the body of the flea. Definite proof is lacking, but it is probable that these fleas bite human beings, and therefore easily transfer the disease. As to the extinction of rats, he says that traps are not successful; poison is probably the best single means for all-round purposes. Dogs and cats are good only as accessories and ferrets in the hands of experts are, no doubt, of great use. The introduction of some other infectious disease of deadly type among rats, for example, such as is caused by Danysze's bacillus is a significant means, but its applicability is yet to be proven.

Eradication of Yellow Fever.—There have been wonderful results reported from Havana during the past year in regard to the almost complete absence of this disease which has usually had an annual death list of one to two hundred at least. Since the mosquito has been found to be the means by which the infection is carried from one person to another attention has been paid solely to the destruction of this insect and the credit for such remarkable results has been unhesitatingly given to the improvements in sanitation. E. SOUCHON (Med. Rec., Oct. 25, 1902), who has had a wide experience in the Health Department of New Orleans, believes that one very important reason why yellow fever has not been prevalent during the past year or two is that it is not now epidemic even in those cities where strict precautions are not taken. He points out that history tells us that the disease causes great ravages for a year or two and then entirely exhausts itself for a considerable period, provided fresh cases, especially virulent ones, are not brought in from the outside. He, therefore, believes that strict quarantine laws should still be enforced and that we should not rely too fully upon the supervision of the mosquito.

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Subscription Price, including postage in U. S. and Canada.

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SATURDAY, DECEMBER 13, 1902.

MILK IN RELATION TO PUBLIC HEALTH.

FOR an important contribution to the literature of the sanitary aspects of the production and distribution of cow's milk we are indebted to Dr. G. M. Kober, who writes in advocacy of the proposed revision of the law regulating the milk traffic in the District of Columbia (Senate Document No. 441, 57th Congress, First Session).

Milk legislation is no longer a novelty in this country. Such legislation is found in more than thirty States; and where it is lacking, as in some of the Southern and a few of the less important Western States, attempts have been made to fight milk adulteration under the general laws against food adulteration, or the municipalities have been able to protect themselves by local regulations.

The first step in milk legislation, according to Chapin, is to define what kind of milk shall be sold. Statutes and local ordinances invariably have begun at this point, and adulteration has been the vice aimed at. Latterly the problem has assumed new aspects. Epidemics of contagious diseases have been traced to milk and bacteriology has shown the dangers which lurk in milk containing an abnormal number of bacteria; and hence the object of milk legislation to-day is twofold: first, the prevention of the sale of adulterated milk, and second, the obtainment of milk free from dirt and micro-organisms. It is obvious that local legislation, if generally adopted and enforced, can protect consumers in cities against rank sophistication of milk. Whether such legislation will ensure a clean and uncontaminated supply of milk is quite another matter, for milk consumed in a large city is often produced hundreds of miles away, perhaps in several States, over which local authorities have no jurisdiction. Recognition of this obstacle to safety has led to the demand of a national law.

In the absence of a national law, municipalities can protect themselves against careless production by issuing no licenses to retailers unless the latter furnish data concerning their sources of supply. The Board of Health may then prescribe rules to which the farmer must conform if he wishes his milk to be passed by the city authorities. In Baltimore, Colorado Springs and Lynn, a license is not issued until the premises of the producer have been inspected. Experience has shown that inspection of cattle, farms and dairies must be rigidly controlled, for if farmers are permitted to employ their own veterinarians worthless certificates may be the result. The proposed law for the District of Columbia provides that the production, storage and shipment of milk and cream shall be in accordance with "the laws and regulations governing dairies and dairy farms, and the production and sale of milk and cream in the District of Columbia when such laws do not conflict with the laws of the State" in which the milk is produced. Premises, apparatus and cattle "may be inspected at any time without notice," by the health officer of the District or his representative. Probably this provision will satisfactorily cover the needs of the District, assuming always that the health officer is furnished with a number of inspectors sufficient to make frequent visits to all the dairy farms by which the District is supplied.

According to analyses of 120,545 samples of milk it is reasonable to expect market milk to contain 12.52 per cent. of total solids, of which 3.75 per cent. shall be fat.

The District bill adopts a standard of 12.5 per cent. total solids, including 3.5 per cent. of fats. New York requires 12 per cent. total solids and 3 per cent. fat. The object of fixing a reasonable standard is to prevent adulteration which diminishes nutritive value—a matter of great importance in infant feeding—and which often involves the addition of infected water. In 16 of

195 epidemics of milk transmitted typhoid tabulated by Kober intentional dilution was practised with polluted water. To show how frequently milk acquires infective properties after leaving the udder of the animal, Kober has collected and tabulated 99 epidemics of scarlet fever, 36 of diphtheria and a few of cholera. The necessity of milk inspection is further shown by a study of the statistics of diarrheal diseases of children in Washington, D. C. In 1893 there were 451 deaths from diarrheal diseases of children under five years; inspections were begun in 1895, and in 1898, when inspections extended over only one-third of the sources of the milk supply of the city, the number of deaths from the same cause was but 231—a decrease of nearly 50 per cent.

Some of the provisions of the bill proposed for the District of Columbia, besides those already mentioned, are worth enumerating. Permits to sell milk or to bring it into the District are required. None but pure, unadulterated milk, which has been cooled and preserved at a temperature below 60° F., shall be brought into the District. Milk is forbidden if taken from a cow less than 15 days before or 10 days after parturition, or if the cow is suffering from disease liable to render the milk unwholesome. The dealer is required to cool milk to a temperature not exceeding 50° F. and to keep it so cooled. Skimmed milk may be sold, but must be up to standard and must be labeled "skimmed milk" or "separator milk." Persons suffering from or exposed to communicable diseases shall not assist in the production or sale of milk. A list of sources of supply shall be conspicuously posted by dealers. Milk shall not be represented as coming from "tested" or "tuberculin-tested" cattle, unless the cattle actually have been tested and marked by the health officer. The District Commissioners are authorized to make regulations to secure proper water-supply, drainage, ventilation, cleanliness, etc., of premises on which milk is produced, held or sold. Violation of the act is punishable by a fine not exceeding two hundred dollars.

We do not underestimate the importance of the work of voluntary commissions such as have been established by the Medical Society of the County of New York, or the Philadelphia Pediatric Society. Such commissions are of great educational value, and their certificates are a source of comfort and safety to a limited number of intelligent consumers and of benefit to producers and dealers who are willing to cooperate. In the long run the marked improvement of a few dairies will have a beneficial effect on the entire milk supply. But for large cities, where the great mass of consumers are ignorant of hygienic laws, indifferent to methods of production or handling of milk and interested only in obtaining a fluid which looks like milk, which will yield a little cream and which is as cheap as possible, voluntary inspection and certification means slow improvement through a creeping method of education. Laws such as the one proposed for the District of Columbia are more offensive to unprincipled and filthy producers and dealers, but if properly enforced are of greater educational value and more potent for reform.

"PROFESSIONS AND TRADES."

UNDER this caption the *British Medical Journal*, Nov. 1, 1902, gives an abstract of the address of Sir Thomas Barlow to the friends and well-wishers of the National Dental Hospital and College, made after he had distributed the prizes to the students. "Dentists," he said, "should be proud of their profession, for he considered that it was to a considerable extent a profession. He regarded as professions those callings as the Church, the Law and Medicine in which one man consulted another as to his line of action in a given case and the professional man for the moment became the absolutely disinterested skilled adviser. The advice given was entirely irrespective of any advantage he might himself derive from it and the work of a dentist in that sense was just as professional as the work of a doctor. In regard to operative work they were on the same footing as the surgeon." "In dentistry certain mechanical arrangements had to be made and adjusted." "That work was not strictly professional." That was the "trade side of a dentist's work." "It was not possible for the dentist to avoid being a mechanician, but he could separate in his own mind and conscience the two things." "In proportion as the professional responsibility of dentistry was developed, as it would gain in esteem." Also this, "It was clear that in proportion as a general practitioner made profit out of the sale of drugs he was a tradesman."

Now, in all this, that which strikes us of the American Continent so forcibly, is the great pains the English mind takes to keep up a distinction between what is *trade* and what is *not-trade*. For after all that is the kernal of the whole matter. Anything that is trade is stigmatized, has only a tolerable degree of respecta-

bility, hence the need of distinguishing clearly from it whatever is *professional.* How has Sir Thomas succeeded on this occasion?

His first point was as to those callings "in which one man consulted another" for disinterested advice. Now is it true that the Church, the Law and Medicine act as consultants in the perfectly ("absolutely," he said) disinterested manner Sir Thomas speaks about? We frankly state our belief that it is not true, for in every one of these instances the skilled and learned opinion is given with the expressed understanding that it has a value in money which compensates *in some measure* for the devotion of a life to the giving of it; and this measure is always, at the least calculation, the measure of the means of subsistence.

On the other hand, outside of the strictly so-called learned professions enumerated by Sir Thomas, are we not familiar with the frequency of occurrence of that which he claims as peculiar to these learned professions, viz., the constant resort to, and dependence on, the opinion of consultants because of their special knowledge and skill? It is true of the profession of teaching, of engineering, in all its various branches, of gardening, of architecture, and in fact of very many branches of skilled industry. The house decorator is a case in point. And what is true of this last is true of all, that in no case is the consultant purely disinterested as claimed. It is not true of the Church, it is not true of Medicine, and it is eminently and proverbially untrue of Law.

Next, Sir Thomas would have us see in the mechanical side of a dentists's work, its plebeian character and, in the sale of drugs, a physician's degradation. We ask, why does this distinguished confrère close his eyes to the fact that the physician's mechanical skill (in pure physics or mechanics) is as indispensable to him as his knowledge and skill and as inseparable from his surgical work as it is in the case of a dentist? And surely he cannot be blind to the inevitable necessity of the physician's trade use of drugs. Even in the most exclusive attitude of a general practitioner, if he administers a hypodermic his drug and skill both enter into the consideration. It is mere quibbling to try to shove aside the exchange character of the doctor's service. This shutting of one's eyes when it suits one's wishes is the old trick of the ostrich burying its head in the sand.

The fact is that all life is service that is worth anything—the more effectual the life the more positively is it one of service. And one life touches every other life at very many points. The mere assumption of superiority because of the kind of work is invidious and distasteful to frank minds. By all means let there be a choice of service, but let it be without stigmatizing that of others. That would be base ingratitude, since all service is indispensable. There is no such thing as absolute independence. The doctrine of interdependence of one man on all other men needs to be honestly seen and frankly admitted. It will contribute vastly to the general comfort. We admit there is a reasonable ground for distinction in the learned professions, but it does not lie in the direction claimed by Sir Thomas Barlow. He has clearly missed the higher view. It seems to us a plain observation that every life has three chief sources of anxiety, the spiritual, the physical and the material, or more plainly the soul, the body, and material things. The minister (euphemistically so called), the doctor, and the lawyer, stand at the door of these three anxieties. Therefore, in a purely academic sense, they are exalted in their office. Time has set its stamp on these services upon which different generations of men have set varying estimates. But we hold that it rests with each class to determine the dignity and worth of its own service by the character which it throws into it. Viewed in this way we see no more of *trade* in the calling of the dentist than we do in that of the physician.

INTERCOMMUNICABILITY OF TUBERCULOSIS.

IT was in August of last year that Professor Koch startled the medical world and produced one of his favorite scientific surprises by announcing at the British Congress for Tuberculosis that so-called animal and human tuberculous processes were independent affections and incapable of being conveyed from the animal to the human species and vice versa. As many of the legal regulations for the inspection of the health of cattle are founded on the assumption that human and animal tuberculosis are essentially identical diseases modified by difference of environment but quite capable of proving infectious to either species under favorable circumstances, Koch's declaration seemed to show that our law-making had really been unnecessary meddling with things not properly understood.

The report of the proceedings of the recent

meeting of the British Medical Association shows that the question is still under discussion because of a misunderstanding as to what really constitutes infection in tuberculosis, but a review of the literature of the subject for the past year shows an overwhelming preponderance of authoritative opinion opposed to Koch's views.

At the Congress for Tuberculosis itself and in the medical journals of the world vigorous protest was at once made against the new idea. Most of those capable of speaking with authority took part against Professor Koch. Here in New York at a meeting of the New York Academy of Medicine Professor Theobald Smith refused to credit on bacteriological grounds Koch's argument as to the essential distinction of the bacilli that produced animal and human tuberculosis while Professors Janeway and Jacobi insisted that there were good clinical observations to support the idea that bovine tuberculosis had been conveyed to human beings in the milk from the diseased animals. These opinions represented very fairly those held by most clinical observers of large experience.

During the year other authorities have added their protest. Professor Behring's work recently reviewed in our editorial columns has for its principal message to the medical men of the world the system of inoculations by which cattle can be rendered immune to tuberculosis. These inoculations may be carried out with cultures obtained originally from the lesions of human tuberculosis as well as those obtained from tuberculous cattle, and in some cases it would seem that the bacilli of human tuberculosis are more efficient than the others. A number of Behring's observations show that the bacilli from human tuberculosis patients when in pure culture may prove fatal even for animals of the bovine species. These bacilli may be rendered more virulent by passage through susceptible animals as sheep. With regard to the intercommunicability of human and bovine tuberculosis Behring says that he leans strongly toward the opinion held by de Jong in *La Semaine Médicale*, 1902, No. 3. De Jong says: "It must be admitted that the bacillus of bovine tuberculosis possesses a virulence superior to that of the bacillus of human tuberculosis, but it cannot be admitted that this superiority of virulence demonstrated by the action of the bacillus in comparative experiments made on cattle, sheep, rabbits, dogs and monkeys may not also be displayed in its action on man."

In quoting this opinion so favorably Behring is only reaching expressions recently reiterated by many prominent foreign authorities on the subject. Nocard the distinguished bacteriologist and veterinarian who at Alfort has done so much work with Chamberland and Roux of the Pasteur Institute of Paris, says that not only is bovine tuberculosis communicable to man but human tuberculosis may be conveyed to cattle. He claims to have seen cases in which the development of tuberculosis in a herd of cattle followed directly upon the employment of a stable attendant who was suffering from tuberculosis in an active stage and was uncleanly in his habits. Nocard insists then, as a matter of prophylaxis for cattle that attendants must not have tubercle bacilli in their sputum, or if slightly affected, must exercise the most careful precautions so as not to convey the disease. This is the other side of a very important practical question.

Nocard showed, several years ago, by a series of very ingenious experiments in which tubercle bacilli of various kinds were grown in collodian sacs deposited in the peritoneal cavities of different animals, that even the bacilli of avian tuberculosis which grew normally at a temperature much higher than that *of mammals, could be* converted into bacilli resembling in respect the micro-organisms that are virulent for men and animals. Prof. Landouzy in his clinical lectures some years ago pointed out that the sympathetic deaths of animals after the lingering illness and death of a master or mistress was frequent and usually due to the fact that the animals had become infected by the tuberculosis of their human friends, rather than to any sentimental effect upon the nervous system or the heart, or whatever else is supposed to be sympathetically affected in the animal under these circumstances. In this category of pet animals Prof. Landouzy includes also birds and fowl in this declaration. If the conversion of avian and human tuberculosis into one another is possible then there would seem to be very little difficulty with regard to the intercommunicability of the forms of the tubercle bacilli that affect animals.

Recently Dr. Ravenel, in giving the details of some work done at the Laboratory of the State Live Stock Board of Pennsylvania, reviewed the whole subject of the intercommunicability of human and bovine tuberculosis. Careful experiments made by himself in conjunction with Dr. Leonard Pearson, State Veterinarian of Pennsylvania, the details of which may be found in the Proceedings of the Pathological Society of Phila-

delphia for May, 1902, and other sources, demonstrate that Koch's statement that human tuberculosis cannot be transmitted to cattle is erroneous and untenable. In confirmation of this conclusion Dr. Ravenel quotes a number of authorities.

With regard to Koch's second proposition, the impossibility of the transmission of tuberculosis from cattle to man, experimental work is impossible but a number of accidental inoculations of this kind have been observed that seem to show beyond all doubt the danger there may be for human beings from this form of infection.

Dr. Ravenel's conclusion is that the evidence at hand forces us to the opinion that human and bovine tuberculosis are but slightly different manifestations of one and the same disease, and that they are intercommunicable. In spite of the authority of the great discoverer of the tubercle bacillus we must consider that bovine tuberculosis is a menace to human health. Dr. Ravenel adds, "We are not in a position at the present time to define positively the extent of this danger but that it really exists cannot be denied." In the past there has been probably a tendency to exaggerate this risk thus involved, but however great this exaggeration may have been it does not now justify any attempt at belittling the present danger and it would be the height of folly to blind ourselves to it.

ECHOES AND NEWS.

NEW YORK.

The Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine announces that the sum of $1,000 will be awarded to the author of the best essay in competition for the above mentioned prize. The subject of the essay, as stated, shall be, "The Etiology, Pathology and Treatment of the Diseases of the Kidney." Essays must be presented on or before Oct. 1, 1904. Each essay must be in English, typewritten, designated by a motto, or device, and accompanied by a sealed envelope, bearing the same motto, or device, which shall contain the name and address of the author. No envelope will be opened except that which accompanied the successful essay. The Academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it. The Academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months. An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. The original of the successful essay shall be the property of the Academy, and, according to the deed of gift, will be published in its transactions. The essays shall be transmitted to the committee of the trustees of the New York Academy of Medicine on the Edward N. Gibbs memorial prize.

For State Hospital Cooperation.—The aims and plans of the Pathological Institute of the New York State Hospitals were discussed by Dr. Adolf Meyer in a paper which he read before the physicians on Ward's Island recently. The institute was founded by Dr. Ira Van Gieson and reorganized last year. As to what must be accomplished Dr. Meyer said: "We must make the work of the physicians as medical as possible, abolish all regulations which derange their work; in short, all and everything that makes a young assistant put trivialities above medical accuracy. We must investigate how large a force is required to reach a standard of work on which we can agree. We must make somebody responsible for the accuracy and efficiency of the medical work which the superintendent cannot possibly supervise well enough where he is responsible for all the administrative burdens; and this person, or these persons, let us say the older members of the staff, must be officially obliged to be able to be helpers to the younger members, sources of instruction and stimulation." Dr. Meyer argues that medical schools do not provide the necessary training for actual hospital work and that assistant doctors in the hospitals come unprepared for special work. "Under these conditions," Dr. Meyer says, "the hospital system must help itself." It has been urged that the prime duty of the institute should be original research work and the discovery of better methods of prevention, treatment and cures. This, he says, is the ultimate object.

New Superintendent of Bellevue.—The Trustees of Bellevue and allied hospitals have invited Dr. William Mabon, the Medical Superintendent of the St. Lawrence State Hospital at Ogdensburg, to accept the position of Superintendent of the hospitals under their charge. Dr. Mabon graduated from the Bellevue Hospital Medical College in 1881. After several years spent in private and hospital practice, he entered the service of the State in 1887, having received the appointment of Assistant Physician at the Utica State Hospital for the Insane. He remained at Utica until October, 1895, when he was appointed Medical Superintendent of the Willard State Hospital. This hospital was in need of reorganization, and it was believed that Dr. Mabon's experience and training and executive ability qualified him for the work. In one year the hospital was placed upon a sound administrative basis, and in October, 1896, the managers of the St. Lawrence State Hospital at Ogdensburg called him to the Superintendency of that hospital to succeed Dr. Wise, who had been appointed President of the State Commission in Lunacy. Under Dr. Mabon's management, the reputation of the hospital as leading in all the best methods for the treatment of the insane has been fully maintained. With the consent of the State Commission in Lunacy and of the State and Municipal Civil Service Commissions, Dr. Mabon now returns to New York City, and will take charge of Bellevue and its allied hospitals, on Jan. 1, 1903. In view of his lay experience in the State service, and his proved administrative capacity, it is confidently expected that he will raise these hospitals to the highest state of efficiency. In addition to his executive duties, Dr. Mabon will also act as consulting physician to the Pavilion for the Insane of Bellevue Hospital.

Health Department Notification and Microscopical Diagnosis of Malarial Fever.—It is the earnest desire of the Department of Health to acquire all possible information as to the occurrence and distribution of malaria in New York City, with a view to its eventual stamping out. As this can only be done with the cooperation of the medical profession, all physicians are hereby requested to notify the Department of Health of all cases of malarial fever coming under their observation. Too great stress can not be laid upon the statement that it is not the desire or the intention of

the department to interfere in any way with the patients. They will only be visited with the consent of the attending physician. Information is desired regarding the location of malarial fever in New York City, so that as far as possible proper measures may be taken to correct the unsanitary conditions which produce it. Malaria, as far as we know, is always transmitted by means of the bites of certain mosquitoes (Anopheles). These mosquitoes can be comparatively easily located and identified, and their breeding places found. In the majority of instances the occurrence of a case of malarial fever in a given locality means the existence of a breeding place of the Anopheles mosquito close at hand. Recognizing the above facts, it is the intention of the department to investigate every case of malaria occurring in New York City, with reference to the source of infection—*i.e.*, the breeding places of the mosquito. These discovered and destroyed, it is hoped that not only will the number of cases of malaria be greatly decreased, but also the spread of the disease from one section of the city to another be prevented. Malaria is common in the outlying sections of the city, and the excavations going on in the various boroughs afford excellent starting points for local epidemics of the disease. To facilitate the desired notification of malaria by physicians, special postal cards for furnishing the wished-for information have been prepared. A supply of these cards will be sent to any physician on request; they are to be filled out and posted, just as is done in reporting a case of diphtheria or other notifiable disease. In return for such helpful cooperation on the part of physicians, the Department of Health has determined to make free microscopical examinations of the blood for malarial parasites a part of its routine work. Outfits consisting of glass slides, surgical needles, information blanks and full directions for preparing specimens, can be obtained at any of the culture stations of the department, where they may later be left for collection and forwarding to the Diagnosis Laboratory. Reports will be mailed by noon on the day of examination. Where the telephone call of the attending physician can be ascertained, the results of examination will be telephoned at once. If, for lack of time or other reasons, the attending physician is unable to take the blood himself, on notifying this department Fifty-fifth street and Sixth avenue, telephone, 1204 Columbus) an inspector will visit the patient and prepare the specimens. Further, should any physician desire the inspection of any given locality with reference to the existence of the breeding places of mosquitoes and their subsequent destruction, he has only to notify the department.

Prevention of Malaria.—The Department of Health of New York City earnestly desires the intelligent help of all householders in the prevention of malaria. This disease, which is also called "Ague," "Chills," "Chills and Fever," "Dumb Ague," has been thought due to stagnant water, to upturned soil, to bad air, and other causes. It has now been proved, beyond doubt, that it originates from the bite of a certain kind of mosquito (Anopheles), and as a rule, in no other way. This mosquito is not born with malaria, but gets the germs into its stomach by biting a person already infected. After the lapse of about eight days, such a mosquito becomes capable of infecting other persons, previously healthy, by its bite, thus passing the disease on indefinitely. To prevent malaria, therefore, the dangerous mosquitoes must be destroyed or their bites avoided. In practice, both expedients are desirable. As the malarial mosquitoes bite as a rule only at night, one will be usually safe by protecting the bedroom, either with screens at the windows or a mosquito bar carefully arranged over the bed. Before going to bed one should kill all the mosquitoes resting on the bedroom walls, in the closets, or under articles of furniture, as the insects already in the room are most apt to give trouble. Moreover, all cases of malaria already developed, must be carefully isolated under mosquito netting until pronounced by a competent physician to be cured. Otherwise, malarial mosquitoes biting these persons, and flying out of doors again, may carry the infection some distance in all directions. Various epidemics in our suburbs, in past summers, have been thus begun. The other, and still more important measure, is, to *prevent the breeding* of mosquitoes in one's neighborhood. All mosquitoes, the malarial as well as the common household pests which only annoy us, require standing water to lay their eggs in. Mosquitoes will lay in water barrels, pans, tin cans, wells, springs, rain pools, cesspools, pots, kettles, drainage traps, ponds—in short, anywhere where stagnant water is found. Running streams are not apt to support the young, unless the current is sluggish. Large bodies of water are usually kept clear by the small fish in the water—minnows, small stickle backs, sunfish—except when the margins of the water are cumbered with grass, slime, or leaves, preventing the fish from getting at the mosquito larvæ, which are very expert at hiding. Mosquitoes, as a rule, can not live in salt water. To kill the mosquito larvæ, therefore, the rule is simple: *no standing water.* Where standing water *must be had* for washing or drinking, the top of the receptacle should be closely covered with wire gauze—not the smallest opening being left at the margin. When drainage cannot be made possible, the surface of the water should be covered with a film of kerosene oil. The oil may be poured on from a can or sprinkler. It will spread of itself. One ounce of oil to fifteen square feet of water is enough. The oil must be renewed about once a week during the mosquito season. Mosquitoes do not fly far from their breeding places, and if all the householders in a given neighborhood will observe the simple rules given, experience has already amply proved that the results will be amazing. Persons keeping stagnant water on their premises are guilty of maintaining a nuisance, and it is the purpose of the department to proceed against all who neglect the warning of the department in this respect. Where large bodies of water, the drainage of which is too expensive for private enterprise, are in question, the department hopes to enlist the assistance of the proper city authorities, so that there need be no reason why the plague of mosquitoes and malaria in the suburbs of New York, should not be entirely removed. Cases occurring among those unable to pay for the services of a private physician, will, upon request, be visited by a department inspector.

Smallpox Prevention and the Health Department Notice.—The Board of Health earnestly desires to enlist the cooperation of the medical profession in a determined effort to free New York City from smallpox and to prevent the reappearance of the disease during the coming winter. As is well known, the disease prevailed very extensively in the city during the winter and spring months of the last two years. At the present time there are few cases in the hospitals of the city, but there are numerous cases in many communities in close relation to New York. The city is thus constantly exposed to reinfection. The present rather satisfactory condition is to be ascribed to the very large numbers of vaccinations made by practising physicians, and to the extensive measures adopted by the Department of Health in January, 1902, to bring about general vaccination, especially in the tenement-house districts, aided by the normal decrease which occurs with the appearance of warm weather. The board is apprehensive of the reappearance of smallpox with the advent of win-

ter, and it desires to adopt every possible precaution to prevent this. Experience in the recent outbreaks in New York City, contrary to the general opinion, has shown that the majority of the cases occurring here are not in unvaccinated persons, but in those who have been vaccinated successfully some years previously, but who have not been revaccinated, and in whom the immunity resulting from the first vaccination has been lost. The prevalence of the disease has been largely the result of the neglect of revaccination at proper intervals, and not to the failure in primary vaccinations. Protection conferred by vaccination is almost absolute, in the experience of the department, for certain periods varying in different persons from three to seven years. The board now appeals to the members of the medical profession to use their best endeavors to see that all the members of their own families and those of their patients, including particularly servants, are vaccinated or revaccinated, as the case may be, wherever the operation has not been successfully performed in the recent past (at least within five years). And the board also especially requests that all physicians officially connected with public institutions or societies of any kind will strongly insist that all the inmates of such institutions and the members of such societies be vaccinated or revaccinated as occasion requires. It is further especially urged that physicians watch the course of the vaccination, and where the result is not successful, a second vaccination should be performed. Care should be exercised to see that the virus employed is fresh and reliable. It is earnestly hoped that with the adoption of energetic measures now, the disease may be completely stamped out in New York and the city kept free from it. With this end in view, the board again earnestly appeals for the assistance of all practising physicians. Free vaccination may be had at the office of the Department of Health, Fifty-fifth street and Sixth avenue, daily, between 9 A.M. and 4 P.M., and on Sundays between 9 A.M. and 12 Noon. Each of the other borough offices will be open for this purpose from 9 A.M. to 4 P.M. Monday to Friday inclusive, and on Saturdays from 9 A.M. to 12 Noon.

PHILADELPHIA.

Reception to Dr. H. A. Kelly.—Following the meeting of the Obstetrical Society Dec. 4, the president, Dr. J. M. Fisher, tendered a reception to Dr. H. A. Kelly, of Baltimore, the guest of the society.

Dr. Mitchell to Be University-day Orator.—Dr. S. Weir Mitchell has been chosen to deliver the "University-day Oration" at the coming annual commemoration of Washington's birthday by the University of Pennsylvania.

Meeting of Homeopathic Asylum Committee.—The commission created by the last legislature to erect a State Homeopathic Hospital for the Insane met in this city Dec. 10 to open proposals for the various sites for the institution. The sum of $50,000 has been appropriated for a site and the coming legislature will be asked for an appropriation to erect the buildings.

New Jersey Has One Epileptic to Each 500 Persons.—The managers of the New Jersey State Epileptic Village report that there is one epileptic in the State for each 500 of population. The legislature will this winter be asked for the enlargement and improvement of the village where the State cares for 85 patients. Since 1898 nine patients have been discharged as cured.

Descriptive Lecture by Dr. Keen.—Dr. W. W. Keen delivered a lecture, descriptive of his recent tour around the world, at Griffith Hall, Dec. 2, for the benefit of the Bucknell Alumnæ Club of this city. The lecture was illustrated by the exhibition of oriental garments and by numerous photographs. During his 16 months' tour, Dr. Keen traveled more than 50,000 miles, visiting 27 different countries.

Blockley ex-Residents' Banquet.—The sixteenth annual banquet of the Association of ex-resident Physicians of the Philadelphia Hospital was held at the Bellevue, Dec. 2. About 85 members were present, some from New York and Baltimore. Dr. Richard C. Norris presided and toasts were given by Dr. John V. Shoemaker, on "The Future of Blockley;" William T. McLaughlin, on "The Past and Present of Blockley;" Dr. John H. Lamar, on "Blockley Rats;" Dr. Morris Tyndall, on "The Resident Staff," and Dr. James B. Walker, on "Olla Podrida."

Annex to School for Feeble-Minded Asked For.—The board of directors of the Pennsylvania Training School for Feeble-minded Children has decided to petition the legislature for $150,000 to build an annex for housing unimprovable cases. It is proposed to place the annex five miles from the main building. Citizens of Delaware county do not favor the plan, as it means more property exempt from taxation. This county, it is stated, now has more land for public institutions exempt from taxation than any other county in the State.

Change in Control of Charities to Be Recommended.—As one of the results of an inspection of the New York public institutions by members of the Philadelphia Board of Charities and Correction Dec. 3, it is stated that President John V. Shoemaker will recommend the abolition of that board, and the placing of charities under a commissioner and the House of Correction in the Department of Public Safety. The members of the committee visiting New York are reported as agreeing that the system of that city should be adopted here, so far as possible. Dr. Shoemaker is in favor of having at the head of each department a man who can give all his time to that work. One point in New York, especially attracting the attention of the committee, was that the inmates of the institutions are made to work. Here they cannot be given work because of lack of room.

Medical Society Postpones Action Regarding City Hospital Plans.—A special meeting of the Philadelphia County Medical Society was held Dec. 5 to consider resolutions of protest against the purchase of swamp lands for city hospital purposes. Before those resolutions were presented, Dr. R. G. Curtin, acting for the Medical Board of the Philadelphia Hospital, presented the following request: "The Medical Board of the Philadelphia Hospital respectfully requests the Philadelphia County Medical Society to take no action calculated to embarrass the Department of Charities and Correction and City Councils, in their efforts to separate the Philadelphia Hospital from the Insane Department and the Almshouse, and to secure the best and most available site for the latter, an end to which the medical board of the hospital has for 18 years been committed." In support of this request it was said that the medical board had knowledge that negotiations for the purchase of a suitable site for the almshouse were in progress and that no swamp lands would be acquired. In view of these communications, no action on the original resolutions was taken by the society.

Therapeutic Effects of the X-ray.—At the North Branch of the County Medical Society Dec. 8, Dr. G. G. Ross detailed the therapeutic results in cases of malignant disease treated by the X-ray. After stating that the changes taking place under X-ray treatment were probably due to trophic changes in the tissues exposed, Dr. Ross said that one of the most prominent uses of the X-ray at the German Hospital is as an analgesic in inoperable and recurrent cases. In this class was

an osteosarcoma of the upper jaw which recurred in the glands of the neck and became exceedingly painful. Treatment relieved the pain. The same result was obtained in an osteosarcoma of the frontal region. They are not absolutely sure whether this relief of pain is due to a mental or a physical change. This question is especially pertinent in cases of ureteral and renal calculi. Some change is apparently exerted in the former condition as patients in whom ureteral calculus has been revealed by a skiagraph claim to have less pain subsequently, even when such a calculus is passing into the bladder and through the urethra. Relief of pain has also been noted in cases of fracture X-rayed for diagnostic purposes. Dr. Ross would not allow X-ray treatment to interfere with surgical methods in the case of operable growths.

Pathology and Physiology of Skene's Glands.—The Obstetrical Society of Philadelphia was addressed Dec. 4 by Dr. Howard A. Kelly, of Baltimore, who stated that during investigations small matters were apt to be overlooked in favor of larger ones. He has made a special study of some of the smaller points of gynecology and spoke regarding certain anatomical structures in relation with the female urethra—the labiæ urethræ and Skene's glands. The former are two folds of tissue meeting over the normal urethral orifice. Their functon is a mechanical one, to protect the mucous membrane of the urethra and Skene's glands from bacteria and leucorrheal discharges. Their anatomy varies considerably, this point being fully illustrated by the speaker by means of drawings. But little regarding the pathology and physiology of Skene's glands has been added since Skene's original observations. The glands can often be easily palpated when not enlarged or diseased by pressing the anterior surface of the urethra against the pubic arch with the index finger and rolling the urethra under it. This is also a good position for massage of the glands. When distended and diseased the glands feel like two wires rolling under the finger. Methods of examination include: (1) Palpation, (2) compression, (3) inspection, (4) sounding—to determine the contents, (5) injection—to determine the capacity.

Treatment of Diseased Skene's Glands.—This is mainly embraced under the following heads: (1) Systematic emptying by pressure; (2) massage; (3) injection of fluids, as two to ten per cent. silver nitrate, pure carbolic acid, or tincture of iodine; (4) incision of abscesses; (5) incision and entire exposure of the glands; (6) burning out the glands with the cautery; (7) entire extirpation. Injection is a very important method. Dr. Kelly has discarded the use of ordinary hypodermic needles for this purpose as there is risk of injecting too much fluid and the packing of the syringe is damaged by the materials used. He now uses hollow needles of any desired size over which is slipped a piece of small rubber tubing. With this simple instrument an exact amount of fluid may be injected. When pure carbolic acid is used the whitened orifice of the urethra should be touched with alcohol and boric acid solution.

The Function of Skene's Glands.—Dr. Kelly said that this question has previously not been satisfactorily answered, but he believes that he has solved that problem. In his view the glands are partly for lubricating the labiæ urethræ, but they are mainly sexual in function. That is, they lubricate the surrounding parts during intercourse. The first effect of a body entering the vagina is to cause an impact of, and to displace, the tissues surrounding the urethral orifice. The orifice is partially opened and the mucous membrane comes in contact with the penetrating body. When this occurs, fluid is poured from the glands to lubricate and protect the parts, this being comparable to the action of the vulvo-vaginal glands in protecting the vulva and vagina. Dr. Kelly, in closing, cited several cases to illustrate various phases of disease of these glands. In one case gonococci were found in the pus from the glands. Perfect recovery followed persistent treatment, which included 26 injections of the glands. Another patient exhibited malaise, chills, pyuria, etc., and various diagnoses had been made. Examination showed that the pyuria was due to inflamed Skene's glands. This case was important because of the many serious conditions suggested by the presence of pyuria. In another case the ducts of the glands were entirely choked by masses of the smegma bacillus.

CHICAGO.

Contagious Diseases Neglected.—A few days ago a citizen of this city carried his daughter in his arms from hospital to hospital. He carried her in vain. It is said no hospital would receive the child. As he reached the Health Commissioner's office she died. What was the explanation of such an apparently inhuman failure to relieve distress? The explanation was that the child was suffering from diphtheria, and that no hospitals in Chicago, except the County and the Presbyterian, have accommodations for contagious cases. The County Hospital is always full. The Presbyterian Hospital contagious ward has only 10 beds, and these are reserved for scarlet fever. It follows that a diphtheria case, failing to secure admittance to the County, is debarred from hospital care. Again, therefore, must the cry go up for better treatment of contagious disease cases in this city. The Chicago *Daily Tribune* remarks, editorially, that "two courses are open. First, build a hospital entirely for contagious disease cases. Second, extend the accommodations of the hospitals already in existence. Both on the score of initial expenditure and on the score of administrative expenditure, the second course has much to recommend it. If there were a decently large number of hospitals in Chicago that had contagious disease wards, the situation would be well in hand. Whether we treat contagious diseases in one place, however, or in several, the plain proposition remains that we must treat them somewhere. We cannot go on leaving them untreated. We treat non-contagious diseases, which are of harm only to the patient and fail to treat contagious diseases, which are of great possible harm to the whole community. If one were starting out with a hospital scheme for a new city which was entirely without hospitals, one's first thought would certainly be that contagious diseases, as social dangers, should have precedence over non-contagious diseases, as individual danger. In Chicago, at present, this order of thought is reversed. Diseases which cannot spread we care for. Diseases which are by nature calculated to spread, we neglect. Not long ago the Bureau of Charities found a mother with five children in one of the downtown railway stations. All the children had whooping-cough. Hundreds of people had been passing by them every hour. The Bureau of Charities used every means in its power to get the five cases into a hospital. The thing could not be done. There was no hospital which could give such cases proper attention. What better illustration could be given of the need of better facilities for handling contagious diseases?"

Woman's Club Planning a Hospital.—The Woman's Club is planning a hospital for children. Naturally, this hospital will have a contagious disease ward. If it can be proved that children's wards for other diseases are also necessary, the children's hospital ought to be built, and the contagious disease ward included. If this cannot be proved, then either contagious disease

wards for both children and adults ought to be added to the hospitals already in existence, or else a special contagious disease hospital ought to be erected. It is time for Chicago, either as a municipality or as the home of wealthy and generous people, to bring the present situation to an end.

Isolation Hospital.—An isolation hospital for the temporary shelter of pupils afflicted with contagious diseases will be built at the Parental School at a cost of $3,000, an appropriation for this purpose having been made by the Buildings and Grounds Committee of the Board of Education.

Suit for Injuries Alleged to Have Been Sustained by X-ray Treatment.—Suit has been begun by John Bortoli against the Northwestern University and Lakeside Hospital for injuries alleged to have been received during the course of treatment at these institutions with the X-ray; $12,000 damages is claimed.

Suit for Nitrogen Gas Treatment of Consumption.—A suit has been entered in the Circuit Court of Cook county by Frank B. Pease, executor of the estate of the late August Dahlin, against Drs. John B. Murphy and August F. Lemke for $25,000 damages. The main allegation of the plaintiff is that a treatment described as the nitrogen monoxide gas method, which it is claimed was invented by Dr. Murphy, and applied to Dahlin by Dr. Lemke, materially shortened the life of Dahlin. The outcome of this suit will be watched with interest.

Culpable Cause of the Spread of Contagion.—A culpable, even criminal, cause of the spread of contagion is being investigated by the Health Department, with a view of presenting the facts to the medical organizations of the city, and to the State Board of Health. This cause is the growing practice among certain physicians of the baser sort of giving certificates of death from contagious diseases, in which certificates some non-contagious disease is assigned as the cause. This is done usually at the request of the family, who wish to evade the restrictions of the Health Department on contagious disease funerals. In one recent case of death from diphtheria the certificate gave the cause as "broncho-pneumonia," and the sole motive of the family in procuring this perjured certificate was that the funeral might be delayed until the following Sunday, while the regulations of the department require that burials of contagious disease bodies be made within 36 hours after death. In another recent diphtheria death the cause assigned in the certificate was "acute meningitis," and the impelling motive was that a public funeral might be held, contrary to the rules of the department forbidding public funerals in such cases.

Preliminary Report Concerning the Power of Certain Human Organs to Destroy Uric Acid.—The author of this paper, Dr. Alfred C. Croftan, called attention to the fact that two perversions of the uric acid chemism may be considered typical and fairly constant of the uric acid diathesis, namely: (1) That the uric acid in the blood is increased in amount and (2) there is a tendency in this diathesis to the deposit of crystalline sodium urate in certain points of predilection. The second factor may be considered in a sense dependent on the first one, for it is probable that urate concretions can only be deposited if the uric acid in the blood is increased above normal. Any attempt, therefore, to understand the causes of the uric acid diathesis, and any endeavor to treat this disease must be directed towards understanding the factors that determine the accumulation of uric acid, and towards preventing this accumulation or reducing it after it has once occurred. The accumulation of uric acid in the blood may manifestly be due to one of three causes, or to several of these causes combined, namely: (1) There may be excessive formation of uric acid; (2) there may be retention of uric acid; (3) there may be deficient destruction of uric acid. The speaker referred to previous work and to investigations concerning the increased formation and the retention of uric acid in the blood, and announced that he would limit his discussion to the elucidation of the third factor alone. In order to understand the pathology of a disease, it is necessary to understand the function or functions, the perversion of which it represents. In this concrete case it is necessary, therefore, to determine whether uric acid is normally destroyed in the mammalian organism before we can undertake to explain certain features of the uric acid diathesis by assuming a perversion of this function.

The administration of uric acid by mouth to human subjects or to animals leads to the excretion in the urine of only a small proportion of the uric acid that is ingested. In order that experiments of this character may be considered valid, it is essential that the subject or the animal be placed on a diet that is altogether free from uric acid or from uric acid-forming substances (purin bodies). The results of these experiments, while positive, are ambiguous, for there are many possible sources of error. We do not know positively, for instance, whether uric acid is absorbed from the intestine, or whether it is destroyed by the bacteria of the gastro-intestinal tract, or by the action of the gastro-intestinal secretions. Comparative estimates of the ingestion and the output of vitogen give doubtful results.

Another difficulty in performing experiments of this kind in animals, especially in rabbits, is to collect the urine quantitatively. For instance, rabbits only pass about five c.c. of viscid urine every hour that is loaded with phosphates, and it is manifestly a difficult matter to obtain all of this. Small errors, moreover, when calculated for so little urine become proportionately large. With the aid, however, of a mixture of salts that possesses great diuretic powers (the formula for this diuretic mixture was kindly placed at the disposal of the author by Dr. S. A. Matthews), it is possible to stimulate the flow of urine to a remarkable extent in rabbits, so that these animals pass as much as 100 to 150 c.c. of urine in an hour, the specific gravity of the urine passed, being occasionally lower than the specific gravity of the salt solution injected. By adding uric acid in alkaline solution to this diuretic solution, it is possible to force uric acid through the animal in a very short time, and it was determined that in the passage through the body over 85 per cent. of the uric acid was destroyed. The author then proceeded to describe the details of the intravenous method of stimulating diuresis and to give some animal protocols to substantiate his position. The results in human beings show that extracts made from the liver, the kidneys, and the muscles possess uric acid destroying power and that uric acid is converted into urea by their action. Watery extracts of these organs, mixed with sodium urate solution, and placed in the incubator for varying periods of time, produced a progressive loss of uric acid. The action of bacteria and the oxidizing action of the air were excluded by control experiments. Boiling seems to destroy the powers of these extracts. The kidneys seem to possess relatively the greatest uric acid destroying power; next the liver, and, last, the muscles. The author called attention to the clinical significance of the former findings, showing apparently that the amount of uric acid excreted gives only a relative index of the amount of uric acid circulated in the blood. He said that it represented, so to say, the algebraic sum of the uric acid formed, and

the uric acid secondarily destroyed in the kidneys and the other organs. Uric acid must, therefore, be considered not a terminal product of metabolism, but merely an intermediary product. Dr. Croftan, in conclusion, made some suggestions in regard to the use of a ferment-like ("oxidase") body that he has succeeded in isolating from these organ extracts; he called attention to the possibility of reducing the accumulation of uric acid in the blood, and in this way, at least symptomatically, attempting to counteract one of the most typical perversions of the uric acid diathesis.

CANADA.

Correction re Dr. Norman Ross's Death.—Last week the death of Dr. Norman Ross of Detroit was reported in these columns as suicidal. Dr. J. J. Mulhern of that city states that this is incorrect. He attended upon Dr. Ross in his last illness and the cause of death was accidental. Dr. Ross had prepared two powders, one being strychnine for a vicious dog, and the other a sleeping powder. Unfortunately he placed these on the same mantel, and took the strychnine in mistake.

Controlling Tuberculosis in Montreal.—Last week in Montreal there was held a very largely attended public meeting presided over by Senator Drummond, for the purpose of considering what measures should be taken in that city for the prevention and cure of tuberculosis. A very large number of the medical men attended. Lord Minto, the Governor-General of Canada was present and delivered an address. Although he did not expect that sanatoria would be soon established he thought that the meeting would do much good in directing public opinion to a consideration of the question. A series of resolutions were adopted in favor of action and a committee was formed to create an enlightened public interest regarding tuberculosis.

Invited to Discuss Bubonic Plague.—Dr. Frederick Montizambert, the Director-General of Public Health for the Dominion, has been invited to a conference by Dr. Suchon, president of the State Board of Health of Louisiana, to be held at New Orleans during the present month, to discuss and devise measures to stamp out bubonic plague in San Francisco, which is alarming the boards of health all over the continent.

To Vote for a Sanatorium.—Toronto Civic Council after a somewhat tedious debate has decided to adopt the recommendation of the Board of Control, to submit the following question to the rate-payers duly qualified to vote on money by-laws at the forthcoming municipal elections in that city in January: "Are you in favor of the city contributing $50,000 towards the establishment of a sanatorium for the treatment of residents of Toronto suffering from consumption?" Should a majority of the ratepayers so vote, then the City Solicitor and Medical Health Officer will be ordered to procure the necessary legislation to enable the city to grant this amount of money.

The Yukon Medical Council.—The following practitioners in the Yukon Territory have been elected members of the Medical Council: President, Dr. D. MacLeod; vice-president, Dr. Barrett; registrar and secretary, Dr. A. E. Edwards; executive council, Drs. Barrett, Sutherland and Aford Thompson, along with the president and registrar as *ex officio* members.

Canada's Drink Bill.—For the year ending June 30, according to the annual report of the Inland Revenue Department at Ottawa, which has just been issued, the quantity of spirits produced amounted to 3,234,147 proof-gallons, as compared with 2,652,708 produced in the previous fiscal year. The raw material used in the production of spirits during the year, was 41,397,871 pounds of Indian corn; 9,449,057 pounds of rye; 3,432,066 pounds of malt; 413,465 pounds of oats, and 29,470 pounds of wheat. The people drank more spirits and beer last year than they did in the previous year. The quantity of spirits consumed was .796, against .767 for 1901; beer, 5.102 as against 4.737; wine, .90 compared with .100 for 1901. The consumption of tobacco was the same as in 1901, the figures being 2.404. Cigars showed an increase of 10,000,000, the figures being 151,780,516. Cigarettes showed an increase of 13,000,000, the number consumed being 134,236,034.

Annual Medical Banquets.—Both Trinity Medical College, Toronto, and the Medical Faculty of Toronto University, and their respective student bodies, held their annual banquets in that city on the evening of Dec. 3. Professor Barker, '90, Toronto, of the University of Chicago, was present at the latter and delivered a much appreciated address on the tendency of medical science. The following evening Prof. Barker was dined by Dean Reeve, when the members of his year in both schools were present. Afterwards Dr. Barker gave a lantern slide demonstration of the bubonic plague which was thoroughly appreciated. At the Trinity banquet, there was a very large attendance, nearly every student of the college being present. Dr. T. S. Harrison, Selkirk, Ont., a past-president of the Canadian Medical Association, was present, and gave some very interesting and amusing accounts of practice in this province 50 years ago. Dr. Harrison at seventy-five years, is still actively engaged in country practice. The Medical Faculty of the University of Bishop's College, Montreal, held their annual banquet on the evening of Nov. 6. Dr. W. H. Drummond, the "habitant poet" in replying to the toast "Our Dean and Professors," said that owing to the rapid development of Canada, the best of our medical students would not be emigrating to other countries in the future as they had done in the past. He also urged them to neglect society work and to work for the good of the profession generally throughout Canada.

Barber Regulations.—Regulations adopted by the Provincial Board of Health of Ontario, in session last week, governing barbers will be satisfactory. The first clause reads:—"A barber should be clean and neat in his person and methods; should use the bath regularly and should be particular in maintaining a healthy condition of the mouth and hands. No person suffering from any disease of the skin, scalp or hair should act as a barber, nor should anyone suffering from consumption or any disease commonly known as contagious serve in this capacity." Further regulations provide that a barber should not come in contact with any contagious disease, that persons recovering from contagious diseases should not visit barber shops, but should be attended at their own homes, and that all instruments used on such patients should be disinfected after use; for the regular cleaning of the shops; for the encouragement of customers to have used on them their own instruments, which should be compulsory in case of persons suffering from skin, scalp or hair diseases; for the use once only of a piece of alum for stoppage of blood; that sponges should not be used at all, and that a spoon or spatula, instead of the fingers, should be used for the removing of vaseline from the vessel in which it is kept.—*Era.*

Personals.—Dr. Charles B. Shuttleworth, senior demonstrator of anatomy at Trinity Medical College, Toronto, is returning from England, where he has just successfully passed the examination for admission as a Fellow of the Royal College of Surgeons. Dr. George W. Badgerow, also of Toronto, has been successful in passing the examination for M.R.C.S.

Dr. Patrick B. Handyside, who has been for the past

five years in charge of the naval hospital at Esquimalt, B. C., has been replaced by Dr. Homer, who, with his family, is now en route from England.

GENERAL.

Biochemisches Centralblatt.—This is the title of a new publication to be published by the Gebrüder Borntraeger in Berlin devoted to the chemical side of medicine.

Gazetta Siciliana di Medicina e Chirurgia.—This new publication of Palermo will appear with the first of the new year.

Changes in the Medical Corps of the Navy.—Week ending Dec. 6, 1902.—Medical Director R. C. Dean, retired, ordered to Washington, D. C., for duty as president of Naval Examining Board. Medical Inspector S. H. Dickson, detached from the Marine Barracks, Washington, D. C., and ordered to the Iowa, for duty as Fleet Surgeon, South Atlantic Station. Medical inspector M. H. Simons, detached from the Iowa, and ordered home to wait orders. Surgeon M. H. Crawford, resignation accepted to take effect, Nov. 28, 1902. P.A.Surgeon M. S. Elliott, detached from the New York, and to temporary recruiting duty at Pueblo, Col., and thence to the New York. P.A.Surgeon J. C. Rosenbleuth, detached from the Wilmington, and ordered home. Asst. Surgeon H. A. Dunn, detached from Cavite Naval Station and ordered to the Vicksburg. Asst. Surgeon F. A. Asserton detached from the Kentucky and ordered to the Wilmington.

Bubonic Plague.—An interesting and important report has just been issued by the medical department of the British local government board. This consists of papers relating to the progress and diffusion of bubonic plague throughout the world during the period from 1898 to 1901. An account is also given of the measures adopted by the different countries for its control. The report is by Dr. Bruce Law, with an introduction by W. H. Power, P. R. S., medical officer of the board. An attempt has been made to show the origin of the disease and its extent and mortality. Dr. Law has had difficulty in collecting these facts for the reason that while some countries promptly and of their own initiative publish their plague statistics in accordance with the agreement of the Venice convention, others do not furnish the facts until they are applied for, and still others, it is said, distort or conceal the actual condition of affairs. Dr. Law states that frequent confusion has arisen from mistakes made in diagnosis at the beginning of epidemics, and the author of the introduction indicates, that notwithstanding the apparent preparedness of certain localities to receive the infection, the disease has seldom become quickly and largely epidemic, a circumstance which seems to show that plague does not at first adapt itself to localities where it has not previously and recently prevailed. Owing to the failures to detect early cases, it has been in many instances difficult to give the history of the origin of epidemics. Often by the time a given epidemic is admitted to be plague, the beginnings of prevalence are obscured by death, recovery, or other circumstances. The influence of rats in the diffusion of plague is also dealt with. Ashore, the affection has sometimes been simultaneous in rats and man, but sometimes rodents have been first affected and then man and sometimes the opposite. It would also appear that rats may be extensively affected and man remain free and that the reverse may also occur. It is pointed out that at sea the disease is not readily conveyed from rat to man and from man to rat. Ships have brought plague patients into port and yet the rats aboard have been exempt. Mention is made of the fact that at Glasgow, though rats were plentiful in the infected region, no disease was observed among them at any time in 1900, though careful bacteriological investigation was made. On the contrary, at Cardiff, though the mortality among rats was very large and pure cultures of plague bacillus were obtained from their bodies, only one case occurred in a human subject. There is reason to believe that at Cape Town rats died in large numbers several months before any known cases occurred among men. But on this point the evidence is not conclusive. With regard to men being free from disease on a ship having infected rats aboard, it is stated that in the case of the steamship Rembrandt, arriving at Bristol from Smyrna, January, 1901, rats dead of plague were found among the grain that formed the cargo, yet no illness occurred among the men aboard in a voyage of 18 days nor among 77 stevedores who unloaded the vessel. A similar instance is afforded by the steamship Pergamon, which, at about the same time, reached Hamburg from Smyrna and Algiers with rats dead of plague aboard, but the crew in good condition. Notwithstanding these observations, Mr. Power, in the introduction, points out that it would be unwise to relax precautions against the spread of plague by rats.

Obituary.—Dr. Timothy Field Allen, the author of an extensive encyclopedia of materia medica and a well-known physician of this city, died last week. He was stricken 14 months ago with apoplexy, which was the primary cause of his death. Dr. Allen was born at Westminster, Vt., in 1837 and was graduated from Amherst College in 1858. From that college he also received the degree of A.M. in 1859 and the degree of LL.D. in 1885. He was graduated from the medical school of the University of the City of New York in 1861. In 1862 he was acting assistant surgeon in the army. In 1867 he became professor of materia medica in the New York Homeopathic Medical College and in 1882 its dean. He was for a long time surgeon in the New York Ophthalmic Hospital and at the time of his death was its president. Besides his purely medical work, Dr. Allen made a study of botany and published several books on that subject. He was a charter member of the New York Botanical Garden.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, November 29.

THE REGIONAL DISTRIBUTION OF LONDON HOSPITALS—MR. JONATHAN HUTCHINSON AND THE LEPROSY QUESTION.

ATTENTION is once more being directed to the aggregation of nearly all the large hospitals of London within a relatively small area. It was stated in evidence before Lord Sandhurst's Committee, which sat some years ago, that "within one mile of Middlesex Hospital (Berners Street) there are eight general and 26 special hospitals, with an aggregate of about 2,050 beds, as well as 13 dispensaries of various kinds; in fact, that by far the greater proportion of institutions for medical relief are within an area of two miles square." On the other hand, the Committee observed with regret that "on the south side of the Thames there is very little hospital accommodation compared with that on the north side. St. Thomas's and Guy's Hospitals are the only large general hospitals south of the Thames, but they are situated on the extreme margin of the southern district." The overcrowding of hospitals within a narrow area in the heart of London is harmful to the institutions themselves, to the private practitioners within

their circle of attraction, and to the sick poor for whose relief they are intended. The hospitals, too closely packed together, are in danger of atrophy from mutual pressure; and the private practitioner has the bread taken out of his mouth that the gluttonous maws of the out-patient departments may be filled. On the other hand, the poor of the larger part of London have no hospital near them to which they can go in time of need, but have to make journeys, involving expense, fatigue and exposure, which often neutralize any good they might get at the hospital. A redistribution of the hospitals in accordance with the needs of the population is clearly indicated as the remedy for a state of things which is very inconvenient for patients and leads to something of the nature of commercial competition among the hospitals themselves. Some of them are situated in parts where land is of enormous value. For instance, a few years ago in a dingy region not far from St. Bartholomew's Hospital, a small site was sold for a price equivalent to $5,000 per square foot, and in some parts of Westminster land *lets* at $5 per square foot. In such quarters naturally the rates are proportionately high. The sites of some of the hospitals, for instance, St. George's, which is close to Hyde Park Corner, where beats the heart of fashionable life, and Westminster, which is close to the Houses of Parliament would, if offered for sale fetch immense prices, and the institutions would be enabled to move to a less expensive and more convenient quarter, with a surplus that would greatly increase their usefulness. Some years ago it was suggested by the present writer that the great hospitals might be moved a little way out into the country, a receiving house and an out-patient department being left in London. This would in no way impair their efficiency as medical schools, while it would materially improve the chances of the patients' recovery. Quite recently it has again been proposed that the Westminster, Charing Cross, and St. Bartholomew's should be transplanted into the suburbs of Battersea, Greenwich and Tottenham, respectively. The site values of these three hospitals are enormous. Perhaps the value of the 6½ acres upon which St. Bartholomew's stands can be estimated most accurately. The authorities of this hospital have just acquired an acre and a half of land for $1,250,000. This addition formed part of the site of the famous old Christ's Hospital School, where Coleridge, Charles Lamb and many other men whose names are a part of English literature were educated, and the remaining five acres occupied by the hospital must be at least as valuable. From this it would appear that the whole 6½ acres are worth well over $5,000,000. With such a sum a site as large could be secured in Battersea or Camberwell, and buildings erected, leaving still a substantial balance. Westminster Hospital stands on two-thirds of an acre, the value of which, by analogy, would seem to be worth $4,000,000. The acquirement of a new site and the erection of a new hospital should leave a balance which would probably place that institution in a sound financial position. Many of the hospitals in the congested area are acquiring the land adjoining them at ruinously high prices, and building extensive additional wings. In the past 10 years over $7,500,000 have been spent by the London hospitals in extending their boundaries. Yet the poor of London are moving further and further away from the heart of the metropolis. The result is that the laboring classes who cannot sacrifice a day's work for the luxury of a visit to a hospital, prefer to take the chance of leaving early symptoms of disease untreated. Hospitals exist primarily for the benefit of the sick poor, and secondarily for the furtherance of the healing art; and every penny spent on anything not directly connected with either of these objects is morally, if not legally, misappropriated. Hospitals have no right to occupy expensive sites or to sink money, which should go to the relief of human suffering, in palatial buildings for the housing of officials who, rightly considered, are parasitic growths drawing to themselves the blood which should nourish the institution. It is certain that the present state of things cannot continue. If the hospitals themselves fail to rise to the exigencies of the situation, the London County Council will take the matter in hand, and may be expected to deal with it without too tender a regard for the claims or interests of particular institutions.

The British Empire numbers among its teeming populations a considerable proportion of lepers. In India alone it has been estimated that there are some 250,000. About a dozen years ago a sensational journalist in search of "copy" got wind of a case of leprosy, which in the ordinary course of events came before the poor-law authorities, and straightway he proceeded to work up a "scare." It was explained that in every dermatological clinic in the metropolis there is always to be found a case or two of leprosy, and it is well known that there are others hidden in out of the way places in the country. Naturally, however, the papers preferred to work the sensation for all it was worth. The end of it was that the "Prince of Wales's Leprosy Fund" was formed, and polite society having salved its conscience by subscribing a few pounds, and a few pushful doctors having got a little advertisement out of the scare, the whole thing was speedily forgotten. One man, however, Mr. Jonathan Hutchinson, who took a leading part in the establishment of the fund seems to be determined to revive public interest in the matter. His own interest in it which for many years has been of a chronic character, has recently developed into an acute form, and he has been writing about it in season and out of season in the public press and in a small organ entitled *The Polyclinic*, which he controls. Most people thought that the "Prince of Wales's Fund" had long ago departed such life as it ever could be said to possess, and it was with something of the creepy feeling that might be caused by a ghost that we read in one apparently privileged newspaper that a meeting was held two or three days ago in connection with the Fund. At this meeting a paper was read by Mr. Jonathan Hutchinson on the present state of the leprosy question in India and Ceylon. The eminent surgeon stated that he proposes shortly to start for India to conduct an examination into the varying degrees of local prevalence of the disease and its relative increase and decline, with a view to gathering data which may enable him to form an inference as to its origin. This announcement will doubtless strike the casual reader as an edifying example of zeal for scientific research. But to those who know the true inwardness of the matter, it is distinctly comic. Mr. Hutchinson has long ago made up his mind that the cause of leprosy is the eating of fish. So firmly is he convinced of the truth of this ancient doctrine—for it is the oldest theory on the etiology of leprosy—that no fact however cogent which can be cited in opposition to it makes the least impression on him. If it is pointed out that in India some of the places where leprosy is endemic are many hundreds of miles from the sea, and that fish has never even been seen by the oldest inhabitant he argues, as the wolf did to the lamb, that their remote ancestors may have eaten it! He attributes the decline in the prevalence of the disease in this country to the Reformation which he professes to believe, by abolishing fasts abolished fish eating. The facts that leprosy began to disappear more than a century before the Reformation, and that fish had to be

eaten because meat was forbidden to be sold on Fridays and in Lent under heavy penalties for more than a century after the Reformation, weigh as nothing in the curiously adjusted balance of his mind against a preconceived theory. He goes to India as he went to South Africa and to other haunts of leprosy, not to investigate, but to find facts that seem to support his theory. His mind is already made up, and like the obstinate old gentleman in Goldsmith's "Good-Natured Man," he likes to hear arguments when his mind is made up, because then he knows they can have no effect on his opinions. With the profession here his views on this subject have ceased to have any weight, but by the public he is still regarded as an oracle. He has entered on a campaign for the abolition of segregation which he holds to be useless and cruel on the ground that leprosy is non-contagious. It is nothing to him that the Leprosy Conference held in Berlin a few years ago with virtual unanimity strongly affirmed the contagiousness of the disease, and as a consequence, urged more stringent legislation for the removal of lepers from intercourse with the healthy community, and that this doctrine is accepted practically by every pathologist and dermatologist throughout the world. It is a case of *Athanasius contra mundum*. And this Athanasius of medicine does not disdain the aid of sensational journalism to support his cause. It is improbable, however, that his mischievous agitation will do much harm. British officials in regions infested by leprosy have seen enough of the beneficial effects of segregation to be easily shaken in their belief that it is necessary. Once before, nearly 40 years ago, the British government of the day referred the question to the London College of Physicians. That learned body presented an inept report to the effect that the evidence was against the theory of contagiousness. The result was that attempts at segregation which had previously been made in several colonies were abandoned. The consequence was an increase in the prevalence of the disease which opened the eyes of the administrative authorities to the futility of the advice given by the College. But the evil wrought by that ill-inspired counsel lived long after the report itself was recognized to be in a scientific sense dead.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

VASCULAR AND GLIA CHANGES OCCURRING IN THE VESSELS OF PATIENTS SUFFERING FROM GENERAL PARALYSIS OF THE INSANE—ANEMIA DUE TO ANCHYLOSTOMA DUODENALE IN DOLCOATH MINE IN CORNWALL—AN EPIDEMIC DISEASE WHICH OCCURRED IN LINCOLN IN MAY, 1902—PSORIASIS FOLLOWING VACCINATION—CHOLEDOCHOTOMY IN A CASE OF CHRONIC JAUNDICE WITH CHOLANGITIS—PATHOLOGY OF SLEEPING SICKNESS—POSTMORTEM WARTS—ECTOPIC GESTATION—AMMONIA AND ANESTHETICS.

F. W. MOTT, at the Pathological Society of London, Nov. 18, 1902, demonstrated the changes occurring in the vessels of patients suffering from general paralysis of the insane. He said that there was an apparent increased vascularity in such cases, this increase being due to the staining of cells accumulated in the perivascular spaces. These cells, which were first described by Unna, were called "plasmatocytes" and their presence was by some authorities considered as pathognomonic of general paralysis of the insane. The origin of these cells was doubtful. They might arise from the endothelium of the vessels or from the cells lining the perivascular lymphatics. Dr. Mott compared the changes found in Congo sickness and in cases of leucemia with those found in general paralysis of the insane, and showed that although the vessels might be occluded in these conditions, there was but little change in the nerve cell. In animals in which all the vessels passing to the brain had been ligated, there was no cell proliferation around the vessels. He then demonstrated the glia change which took place in nervous tissue which had undergone degeneration.

J. S. HALDANE described an outbreak of anemia due to *Anchylostoma duodenale* in Dolcoath mine in Cornwall. Only miners working in one portion of the mine were affected. The outbreak had existed for probably from seven to eight years, but during the past two years the number of cases had diminished. The anemia was of the chlorotic type and was attended by the usual symptoms. He discussed the question of the cause of the anemia in these cases and came to the conclusion that it was not due to loss of blood taken by the Anchylostoma. Skin affections had been a prominent feature in some cases and resembled an urticaria. The manner in which the disease was spread was clear, for excreta were deposited anywhere in the mine, and thus were carried by the boots of the miners on to the ladders and thus on to the hands. The men took their dinners in the mine. There was no evidence that the disease was conveyed by water. Ova were found even in the feces of apparently healthy men. There seemed to be little doubt that the disease had been introduced from abroad, for many of these miners had worked in foreign mines.

W. H. B. BROOK, of Lincoln, at the Clinical Society of London, Nov. 14, 1902, made a communication on the clinical features of an epidemic disease which had occurred in Lincoln during May, 1902. Upwards of 75 cases of the disease had arisen in his practice and that of other medical men of the town in the course of seven days in the early part of May. The chief characteristics of the disease were as follows: It generally started suddenly with erythema of the face, accompanied by sore throat, and with edema of the fauces and uvula, the tonsils in many cases being covered with a drab-colored fur. A roseolous papular eruption in most of the cases was met with on the second day, lasting from a few hours to one week, and showing a tendency to recur in some cases as late as the tenth week. In some cases it was of an urticarial character. During the fading of the eruption, desquamation occurred in one-third of the cases. The temperature was never high unless complications were present. It ranged from 99° to 102° F., faling on the appearance of the eruption. The pulse-rate was not increased in proportion to the fever. Albumin was never present in the urine excepting in two instances in which, at the end of the month there was a transient attack of hematuria. The 75 cases referred to occurred in the practice of Dr. Brook and that of his partners, Mr. Charles Brook and Dr. A. Stanley Green, and in no case did the infection appear to be communicated to others. Nearly all the patients were adults; several were well advanced in years. The complication most commonly met with was swelling and tenderness of the cervical glands, generally about the fourth day; this was accompanied by a return of the fever, which in some cases became very high, and could only be reduced by the administration of anti-streptococcic serum. This inflammation of the cervical glands occurred in some patients who had apparently quite recovered, and in them appeared to be dependent upon a too early return to the meat diet which also had a tendency to cause gastritis and even peritonitis. Stiffness of the muscles and joints was met with in many instances; in one, an adult, this occurred at the end of a fortnight, and was so marked as to resemble acute rheumatism, the stiffness of the joints persisting for

several months. Septic phlebitis occurred in one patient, aged sixty-six years, who died on the twentieth day with symptoms of pyemia, death being ushered in with hemiplegia, coma and convulsions. With one doubtful exception, all these patients had had milk from the same dairy—a circumstance which was suggestive of the infection having been conveyed by milk. The epidemic was investigated by Dr. Klein, who isolated a special micro-organism from swabs taken from the throats of several of the patients. The treatment that gave the best results was rest in bed, with a milk diet; calomel followed by a saline purge when the patient was first seen, and a simple saline mixture with salicylate of sodium, followed during convalescence by the administration of quinine. Great relief was afforded by the administration of nitrate of silver to the fauces and the frequent use of a gargle containing carbolic acid and borax.

DR. MALCOLM A. MORRIS, at a meeting of the Dermatological Society of London, Nov. 12, 1902, showed a middle-aged man who had been vaccinated in April, 1902, and had been affected with a generalized eruption three weeks afterward. This eruption was undoubtedly psoriasis and there was a doubtful history of a single spot upon one arm before the vaccination. Quite lately another eruption had made its appearance, taking the form of a long line extending from below the internal malleolus, where it had begun, up the inner side of the leg to the knee, then following the line of the sartorius muscle to the outer side of the thigh and finally winding around so as to terminate on the buttock. The line thus formed was made up of groups of small, flat-topped angular papules, quite characteristic of lichen planus, though there was more scaling present than is usually seen in this disease. The diagnosis offered was a combination of psoriasis with linear lichen planus, and with this all the members present agreed.

A. H. G. DORAN, at a meeting of the West London Medico-Chirurgical Society, held Nov. 7, 1902, read a paper on choledochotomy in a case of chronic jaundice with cholangitis, with recovery. The patient, a female, had suffered as a child from four or five attacks of jaundice. When thirty-three years old she had a violent attack of pain and for the first time passed gall-stones. For about two years she continued to pass about one stone a month, without any jaundice, but with considerable pain. On April 23, the patient, then aged thirty-six years, came under the author's care in the Sanatorium Hospital. She was jaundiced and the gall-bladder was enlarged and hard. The motions were quite pale, with a remarkable quantity of powdery matter which proved to be of vegetable structure. On May 1 an operation was performed. An incision was made, the gall-bladder was aspirated and an ounce of thick, greenish pus came away. The common duct was much dilated and just above the duodenal orifice a stone was found to be impacted. A vertical incision was made into the dilated duct and a rough spherical calculus, three-quarters of an inch in diameter, was removed. With the probe no other calculi could be found. The duct was sutured, a drainage tube was placed in the gall-bladder and pressed against the common duct, and the upper part of the abdominal wound was closed. On the third day after the operation two soft calculi came away. On the fifth day there were severe vomiting, a rise of temperature and a pulse rate of 140. On the sixth day much deep-yellow bile escaped from the wound and the vomiting ceased entirely. At the end of three weeks the patient was convalescent. Two months after the operation there was some suppuration and a piece of ligature came away. During September three pieces of calculus came away from the fistula, which was now only two and a quarter inches in length. Dr. Doran said that this case showed the value of choledochotomy, an operation first performed by Courvoisier 13 years ago. Choledochotomy was an ideal operation. A sandbag under the loins proved a great assistance in pushing the duct forward. A long incision should always be used. The gall-stones which came away after the operation were probably hidden in the gall-blader and the acute attack on the fifth day was a relapse of the cholangitis. The vomiting was extremely severe, but with no symptoms of septic peritonitis. A fistula connected with the common duct, which, fortunately, did not occur in this case, was much more serious than one into the gall-bladder. There ought, however, to be no difficulty in suturing, when the patient is placed in the proper position. Mr. Doran asked for opinions on the value of calcium chloride for increasing coagulability of the blood. He thought the passage of quantities of sand-like powder of some interest. He called attention to the fact that pregnancy favored cholelithiasis.

W. B. WARRINGTON, at the Liverpool Medical Institution, Nov. 13, 1902, exhibited a paper on the Pathology of Sleeping Sickness. He demonstrated the lesions by the aid of lantern slides. These showed that the stress of the disease fell on the lymphatic system and particularly the lymphatics of the central nervous system; the perivascular lymphatics here were found to be invaded by lymphocytes, the nerve cells being, for the most part, normal, only a few exhibiting chromatolysis. His observations agreed with those of Dr. F. W. Mott. They supported the toxin view of the disease, the actual nature of which, was, however, undiscovered.

DR. GLYNN read a note on Postmortem Warts. He had had the oportunity of making some personal observations on the subject, having contracted the affection on one of his fingers. He had made sections of the growths and also used portions for inoculation into guinea-pigs; both series of observations demonstrated the tuberculous nature of the warts. In connection with the warts he commented on the three forms exhibited by tuberculous lesions of the skin. He looked upon the development of such warty growths as characteristic of a high degree of resistance to invasion.

At the Birkenhead Medical Society, Nov. 14, J. K. BLOOD read a paper on Ectopic Gestation, in which he detailed the symptoms usually met with in such cases and discussed the diagnosis. He referred to a case which had recently occurred in his practice. The patient was three months pregnant, and while walking one day in the garden was seized with sudden abdominal pain. When seen by him one hour later she was greatly collapsed. She was bleeding from the uterus with passage of decidual membrane. A diagnosis of tubal rupture was made. A laparotomy was performed the following day and the tube was removed. He thought that ectopic gestation was a commoner condition than was generally believed and that most, if not all, of the cases of hematocele were cases in which an early rupture of the tube had occurred. In his opinion laparotomy with removal of the parts concerned was the proper and only treatment of these formidable cases.

W. TYRRELL, at the Society of Anesthetics, Nov. 7, 1902, read a paper reporting a case of death immediately following the administration of nitrous oxide gas. The patient was slow in recovering from the gas and strong ammonia was therefore held to his nostrils. The postmortem examination showed a congestion of the mucous membranes of the air passages. The author had received the report from outside sources and was not able to speak with authority concerning it, but since it contained the suggestion that the ammonia and not the anesthetic had caused death, he thought it worth while to mention it to the society.

CHOREA NOT A RARE DISEASE AMONG INDIANS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In my sanitary reports for the three-quarters ending March 31, June 30, and Sept. 30, inclusive, I have had to include 10 cases of genuine Sydenham's chorea, occurring among the Indian children attending the Government Industrial School at this place.

Two of the cases were full-blood Sioux girls. One other was a full-blood also, but belonging to a different tribe, probably Cree.

The rest of the cases were in girls classed as Indians, but having some white blood, one being a half-breed Sioux, while the others were three-quarter and one-half blood Chippewas and Crees.

All of the cases were curable, and under proper treatment subsided generally in from one to three months; so far there has not been a relapse in any case.

Rheumatism did not seem to stand in a causal relation, as it was associated with only one case, and in that, after the subsidence of all acute choreic symptoms.

In one there was a suspicion of masturbation, but in all other cases both the above conditions must be excluded.

Having carefully studied each case as it came up in almost regular routine, I am inclined to concur in the opinion of many writers who class chorea as an infectious disease.

R. E. RIGGS, M.D.,
Physician U. S. I. S.

MIDSHIPMAN AIKIN AND VIVISECTION.

To the Editor of the MEDICAL NEWS:

HON. JACOB H. GALLINGER, Chairman of the Senate Committee on the District of Columbia, Washington, D. C.

MY DEAR SIR: As you have repeatedly introduced bills into the Senate for the purpose nominally of regulating experiments upon animals in the District of Columbia, which bills, however, if they had become laws, would, in fact have prohibited many, if not all of them, I deem it my duty to call your attention to the case of Midshipman Aikin of the United States Naval Academy, who was recently injured in a football game. My reason for doing so is to show you by a single concrete example that knowledge gained by animal experimentation is an immense boon to humanity and that, therefore, such experiments should be heartily encouraged.

The facts of Mr. Aikin's case are as follows: When I first saw him three days after the accident, I found that he had been unconscious for a half hour after the accident and ever since then had complained bitterly of headache, which he located always in the forehead. Mentally he was very dull, though not comatose. His pulse was slowed down to 52 instead of being 72, the normal. Soon after the accident he began to develop convulsions, first in the right leg, afterward in the right arm also, the right arm being finally the chief seat of the convulsions. When they were very severe they involved the left side also. The face was never involved. In 6½ hours after I first saw him he had 24 of these attacks, all limited to the right arm. They were not attended by any loss of consciousness. They exhausted him very greatly, especially when they were excessively severe. Several times it was necessary to give him chloroform.

There was no fracture of the skull. The only physical evidence of any injury was a very slight bruise at the outer end of the left eyebrow.

Had I seen this case before 1885, I would have been unable to explain why the spasms were chiefly manifested in the right arm, and from the evidence of the slow pulse, the headache, the stupor, the bruise in the left temple, etc., I would have been justified in inferring that probably the front part of the brain was injured at the site of the bruise. Had I opened his skull at that point, I would have found a perfectly normal brain and have missed the clot. The young man, therefore, would have died whether his skull had been opened or not.

In 1902, observe the difference. As a result of the knowledge derived from experiments upon animals which have located precisely the center for motion of the right arm on the left side of the brain near the top and a little in front of a vertical line drawn through the ear, and disregarding entirely the site of the headache and the bruise, I reached the conclusion that there had been a rupture of a blood vessel within the head, which had poured out a quantity of blood, and that the situation of the clot should correspond to the "arm center." The location of this arm center was far away (about three inches) from the location of the bruise, and its position was fixed absolutely as a result of experiments upon animals, confirmed later by many operations on human beings and also by postmortems.

As soon as the skull was opened at this point the clot was found, its thickest point being exactly over the arm center and nine tablespoonfuls of blood were removed, with the result that the patient's life has been spared. The blood had first been poured out over the "leg center," which is located a little higher up than that for the arm. This explained the early spasms in the right leg. The clot did not extend, however, further down than the arm center. This explained why the face was never convulsed, for the "face center" lies just below that for the arm.

I think if you were to ask the parents of this young man how many animals they would be willing to have sacrificed in order that their son might have his life saved, there would be no doubt of the answer. Indeed, had it been your own son, I cannot doubt the answer. But this is only one of hundreds of cases in which a similar exact localization has been made by many surgeons, both in Europe and America. Yet by a curious coincidence in the very same issue of a Baltimore newspaper containing a reporter's account of the successful operation on Midshipman Aikin, there is a letter signed by an active anti-vivisectionist agitator, which, among other misstatements and misrepresentations usually found in such publications, asserts that "brain surgery is disregarded."

If the laws which you and your friends advocate were in force, the conditions for scientific investigation in medicine in this country would be quite as deplorable as those in England. For example, when Lord Lister, who has revolutionized modern surgery, largely as a result of such experiments, wished to discover possibly some still better way of operating by further experiments, he was obliged to go to Toulouse to carry them out, as the vexatious restrictions of the law in England practically made it impossible for him to continue there these preeminently humane experiments.

Again, when Sir T. Lauder Brunton in London started a series of experiments on animals to discover an antidote for the cobra and other snake poisons of India, where every year 20,000 human lives are sacrificed by snake bites, these beneficent researches were stopped by the stringent British laws to protect animals. Meanwhile half a million of human beings have hopelessly perished.

Who, I may ask, is the more humane; he who doubt-

less with the best and sincerest motives of love for dumb beasts would prohibit experiments upon animals and thereby prevent the acquisition of such knowledge and so compel surgeons to stand with folded arms and see innumerable lives thus needlessly sacrificed or he who by properly instituted experiments would discover such new truths and apply them to the service of humanity?

The anti-vivisectionists have frequently denied that surgeons have learned anything from such experiments. I presume that I may be considered a competent witness as to the source at least of my own knowledge, and I state with the greatest positiveness that without the knowledge derived from experiments upon animals, which have demonstrated the facts of cerebral localization, I should never have been able to locate the clot in Mr. Aikin's head and to remove it, nor would I have been able in the last 15 years to locate numerous tumors and other brain troubles and relieve many of them. What is true of myself is equally true of other surgeons.

In view, therefore, of the evident and positive benefit of such experiments, I trust that you will be willing to desist from further efforts at such repressive and, as I regard it, most inhumane and cruel legislation.

As this matter is of vital importance to the well-being of the entire community, I shall take the liberty of giving this letter to the press as soon as you have received it.

W. W. KEEN,
Professor of Surgery, Jefferson Medical College.
December 5, 1902.

SOCIETY PROCEEDINGS.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Regular Monthly Meeting, held on Tuesday Evening, October 7, 1902.

The President, Dr. Wendell Reber, in the Chair.

Post-Diphtheritic Paralysis Affecting the Nose and Throat.—Dr. Carle Lee Felt read a paper entitled as above, in which he divided the causal factors of this condition into three groups: the bacilli, the toxin, and a by-product, the action of which is limited to the nerve tissue, called "toxone," the latter agent being accredited by Dr. Dundas Grant with being responsible for the paralyses following the mild diphtheritic cases treated with antitoxin. The condition per se may also be considered under three headings, *i.e.*, (1) Muscle degeneration; (2) localized neuritis and degeneration; (3) central nervous destruction and degeneration.

The full details of this paper will be found in a subsequent issue of the MEDICAL NEWS.

Post-Diphtheritic Paralysis Affecting the General Nervous System.—This paper was read by Dr. Luther C. Peter, in which he stated that the frequency of the palsies is in direct proportion to the severity of the general infection, notwithstanding that occasionally a severe paralysis may follow a mild diphtheria. The most important etiological factors are age and the location of the membrane, Gowers claiming that the largest per cent. of cases occur in adults, while the experience of other observers tend to a contrary opinion, the latter holding that most of the cases occur between the ages of five and six years. From the observations by Myers, it would appear that about one-fifth of the cases are followed by paralysis. That the paralysis may involve almost any portion of the body, particularly the nerves, spinal cord and brain; and muscles, especially the myocardium, is now pretty generally recognized, as is also the fact that the condition is caused by a toxin elaborated in the body by a diphtheric bacilli, the blood stream acting as a conveyance for the toxic agent. The localization of the paralysis can no doubt be explained by the proximity of the affected organ to the source of infection. The full paper will be found in a subsequent issue of the MEDICAL NEWS.

Post-Diphtheritic Ocular Paralysis.—Dr. P. N. K. Schwenk read a paper on this subject in which he stated that the post-latent stage of diphtheria is almost invariably characterized by paralysis of the ocular, some writers indeed consider this condition rather as a part of the disease than a sequel thereto. As a rule the paralysis first appears in the fauces, affecting deglutition, and then successively involving the muscles of accommodation and those of the extremities. But few muscles are usually affected at the same time, the ciliary muscles being the most common focus and the sphincter muscles the most rarely affected. This condition was first noticed by Donders during an epidemic of diphtheria in France in 1860, in which he reported upwards of 30 cases, although Faure in 1857 had noticed six cases of paralysis of the palate and weakness of sight, and two of strabismus. Brettonneau, Nousseau and Blanche attributed the condition to disturbance of the retinal function, while Donders supposed it to have been due to a hemorrhage in the region of the oculomotor nerve centers, as this would offer an explanation for the "dulness in the head," slight vertigo and headache frequently coexisting. Post-diphtheritic ocular paralysis is usually bilateral, although a few cases of the unilateral condition are reported, and paralysis of the sphincter irides is a rare accompaniment. The total hypermetropia following this condition is in excess of that following any cyclopegiæ, which is accounted for by Jefferson by the fact that the lens assumed a flatter curvature in prolonged paralysis of the ciliary muscles than that induced by a shorter cyclopegiæ. These attacks are usually observed in from two to six weeks after the attack of diphtheria, and require about the same length of time for a cure, the prognosis being more favorable in the young than in the older patient. There is an inability to distinguish near objects and double vision may or may not be present. The severity of the primary disease bears no relation to the ocular paralysis, and in the author's opinion the condition is produced by the action of the toxins on the peripheral nerve centers. The full paper will be found in a subsequent issue of the MEDICAL NEWS.

Dr. Charles W. Burr, in opening the discussion on these papers, stated that he believed the chief causative factor in these cases of diphtheritic paralysis was multiple neurosis, his contention being supported by post-mortem observations in eight or 10 cases, in none of which was there any disease of the brain or cord, but marked degeneration of the peripheral nerves was present in all, which latter condition is reported to be present by all who have studied the pathology of diphtheria. Very rarely myelitis hemorrhagica or some degeneration of the ganglion cells in the anterior horn is discovered, but these conditions are just as frequently found after death from other causes than palsies. Occasionally convulsions followed by hemiplegia, or hemiplegia, without convulsion may be observed, and necropsy may show hemorrhage, but more frequently there is thrombosis of the cerebral artery. This condition, however, is rather a secondary infection than a diphtheritic palsy, as so far as is known neither the diphtheria bacillus nor any of the poisons produced thereby will produce cerebral thrombosis, while streptococcic infection is a frequent cause of the condition. Regarding prognosis the most important factor to determine is whether it is a multiple neuritis or a cerebral affection,

in the former case the prognosis being very good, while in the latter it is very poor. The diagnosis is usually very easy, the muscles of accommodation and the palpebral muscles usually being first affected. The most important feature in the treatment of diphtheritis paralysis was thought to be absolute rest, while strychnine, and when chlorosis is present, iron were thought to be important adjuncts. The use of antitoxin in diphtheria was commended, although its value in the prevention of paralysis was felt to be an open question for the reason that the men who treat the paralyses rarely see the disease in its primary stages.

Dr. R. W. Bemis stated that he did not believe antitoxin should be used to the exclusion of everything else, as he felt that muscle changes take place as soon as the local manifestations are visible, thus the antitoxin cannot be given early enough to secure the effect which is produced in the experiments on guinea pigs, in which the diphtheritic toxine is injected and immediately followed by an injection of antitoxin. While he believed that antitoxin was an important factor in the cure of the diphtheria itself, he felt that it had but little effect on the paralysis. Iron, digitalis, strychnine and other heart stimulants were thought to be indicated. A case was reported of a girl about six years of age, who was suffering from such severe paralysis that she could not hold a two-ounce medicine glass in her hand, who was given one-twenty-fifth of a grain of strychnine every four hours for from three to five days, and made a rapid recovery. Local applications of peroxide to prevent the spread of the exudate were recommended, and the severity of the case was thought to be indicated by the amount of the exudate present. The hemorrhagic cases are particularly fatal and treatment is usually of but little avail.

Dr. Wm. Egbert Robertson felt that the reason the antitoxin treatment was not more uniformly successful was because the diagnosis and administration of this remedy was not made sufficiently early, and recommended the making of cultures in all suspected cases. The secondary effect of these parenchymatous changes, of course, it is impossible for the antitoxin to overcome, and where you have a multiple infection, this remedy is not sufficient, but it is rarely that sore throat due solely to streptococci, pneumococci, staphylococci or similar organisms proves fatal. Considering the fact that all the changes are due primarily to the toxin, it would naturally follow that the prevention of the action of this substance would prevent paralysis, which would seem to indicate that paralysis would be less likely to follow if the antitoxin had been used in the early stages.

Dr. Godfrey referred to a number of cases which had recently been under observation in Smith College, in which antitoxin was injected early, and if there was not a favorable response within a short time, double the quantity of the original dose was given, in one case 20,000 units being administered within the first 30 hours. All of the cases recovered without palsy and there was no hemorrhage except nasal hemorrhage and albuminuria.

Dr. Wendell Reber reported the case of a young man, nineteen years of age, who had been treated early in the disease with large injections of antitoxin. He was confined to bed for two or three weeks, at the end of which time he developed post-diphtheritic paralysis of the arms and legs. There was considerable laryngeal infection and marked divergent squint, but no involvement of the externi muscle. The pupils and the muscles of accommodation were also affected. After three or four months' rest in bed, in conjunction with the use of strychnine, he made a good recovery, although the divergent squint still persisted. A tenotome was introduced into the external recti, but there is still some paralysis with marked internal squint. The fact was referred to that seldom are the muscles within the eye and the externi affected, which was accounted for by the blood being supplied by different vessels.

Dr. Schwenk, in closing, stated that he had not seen a case of post-diphtheric paralysis of accommodation for several years, which he felt was probably due to the use of antitoxin.

Dr. Felt, in closing, felt that the large proportion of the cases of nasal diphtheria which were followed by paralysis was due to the fact that many of the cases of this condition were not recognized as such, and also because the structures are more absorptive than those of the tonsils. He believed that the early use of antitoxin had a marked effect in preventing paralysis, but felt that it was of out little value if not used by the third day of the disease, either as a preservative of life or a preventive of paralysis.

Dr. Peter, in closing, referred to the conflicting opinions regarding whether the paralysis originated in the peripheral nerves or in the cord, and stated that changes similar to those found in the peripheral nerves, such as parenchymatous degeneration of the nerve fibers, have been observed in the cord.

In regard to the treatment, he felt that antitoxin offered the only rational method of treating diphtheria and the consequent paralysis, and since this latter condition is caused by the reaction of the micro-organisms on the tissues, if the poisons are early eliminated, these paralyses can be prevented.

SOCIETY OF DERMATOLOGY AND GENITO-URINARY SURGERY.

Stated Meeting, held November 14, 1902.

The President, Dr. H. Goldenberg, in the Chair.

A Case of Fibromata.—Dr. W. B. Brown presented this case, which was interesting on account of the large number of lesions and, particularly, the new lesions which had made their appearance within the past few months. Over the trunk were to be found hundreds of minor tumors.

Dr. G. K. Swinburne asked what the lesions contained; were they not cystic? Dr. Brown answered that he had not removed them for examination. The Chairman said they were dry and when squeezed nothing came therefrom. Dr. E. L. Cocks thought that it was rather an atypical case and asked that the thyroid extract be given a trial. The Chairman asked if any of the gentlemen present had ever tried thyroid extract in such cases. Dr. B. Lapowski had had two cases in which the thyroid extract had been used with some effect. In cases of large fibromata, after four or five weeks of the administration of thyroid extract, some would suddenly get small and not increase in size and, at the same time, other fibromata would increase. Dr. Brown asked regarding the origin of the disease, whether it was infectious or not. Dr. B. Lapowski said that it was at times called neuro-fibromata. It was not an inflammatory process but due to a toxic element which acted upon the nerve centers or ganglia and produced a neuritis. The Chairman said that neuro-fibromata must originate from the sheath of the nerve. Some had explained the condition as one of fibromatous diathesis, or fibromatosis which, to his mind, did not explain anything.

A Case for Diagnosis.—Dr. John Cabot presented the case of a man who, for five years, had complained of very sensitive points, particularly on the shins where there were quite pronounced areas very sensitive to the touch; below these points there were little nodes which apparently were not connected with the bones; they

were directly under the skin, like a small abscess formation. Upon pressure they would disappear and then return. The condition had existed off and on during the past five years. He is an Irishman, married, and has a family of children. He gave no syphilitic history. These sensitive areas had improved under the administration of iodide of potassium and the mixed treatment. On the wrist there was noted a mass which bulged up and, when pressed upon, made him wince.

Dr. Brown thought that possibly a gumma might be present. He did not find any exostosis. Dr. H. H. Morton thought it was a syphilitic case. Dr. B. Lapowski said that the scars found on the body were decidedly syphilitic and he believed the man had had syphilis. But whether that neurotic element was due to syphilis was a question he could not answer. The masses beneath the skin did not feel like gummata. In cases of neuromata the pain was alongside the nerve but, in this case, the pain was not alongside any nerve. Because he improved under the mixed treatment he believed that it should be forced, either by injections or inunctions. Dr. T. G. Lusk did not think that the scars on the legs were characteristic of syphilis. The man gave a history of having had ulcers there following an injury which accounted for the scars. There was no multiple collection of scars which pointed to a previous syphilis. Certain indurated areas found in gout, not always the result of high living, colchicum had caused to disappear. Without further evidences of syphilis he would advocate the administration of this drug and benzoate of lithium. He did not know what the lesion upon the wrist was, but thought possibly it might be syphilitic. He would also try inunctions of mercury combined with iodide of potassium in increasing doses. Dr. W. K. Otis believed that the case was one of syphilis and advocated the running up of the iodides as high as the patient could stand them. Dr. Swinburne also believed it to be syphilis. The Chairman was inclined to look upon it as syphilitic, although he agreed with Dr. Lusk that there was nothing characteristic about it. He did not believe in diagnosing syphilis from scars because he had seen scars the result of traumatism look like syphilitic scars. If the Doctor had not stated that the lesions disappeared he would be inclined to consider them tumors, neuromata or neuro-fibromata and, therefore, he would excise a small portion and examine it. Another diagnosis that might be made was rheumatic or gouty deposits in the muscles, *i.e.*, a myositis due to gout or rheumatism, a condition that he had seen in the neck. He did not think there could be made a diagnosis of erythema nodosum for there was no erythema present; the color of the skin was the same as the surrounding tissues. He thought it perfectly feasible to excise a small portion of one of the tumors, as on the leg, and have it examined microscopically. Dr. Cabot said the patient had been under the observation of competent men at the Presbyterian Hospital for the past five years. Rheumatic and gouty treatment had been given without any effect but the administration of mercury and iodide of potassium would clear it up. He would go away and be apparently well, but later he would return with the trouble which again would disappear under the same treatment. This had happened six or eight times. This seemed to undoubtedly establish the diagnosis of syphilis. Dr. Norton, a very competent and careful observer, had said that the syphilitic treatment was effective and the anti-rheumatic treatment had no effect. The Doctor said that he brought the patient before the Society on account of the interest attached to his giving no syphilitic history and the local manifestations were not typical of syphilis. The Chairman thought that the case might be a gouty one and iodide of potassium, being an anti-gout treatment, had caused its disappearance. Dr. B. Lapowski said that the microscopical examination would not reveal anything if the case was one of syphilis. The Chairman said it was rare to have such tumors so sensitive to the touch. Dr. Lusk asked that all other treatment be stopped and the patient be given 10 minim doses of the wine of colchicum and 10 grains of the benzoate of lithium, regulate his diet, cut off tea and coffee for two or three months and watch the behavior of the disease. The Chairman said that if rheumatic no effect would be obtained with this treatment unless it was combined with massage, massaging with the oil of gaultheria.

A Case for Diagnosis.—Dr. E. L. Cooks presented the daughter of a man who was brought before the Society by him some time ago with Addison's disease. In this case there was pigmentation of the forehead and face but the body was absolutely clear. She had been treated for syphilis and arsenic, as high as 15 drops of Fowler's solution three times a day, had been given for three months. It did not seem to him that the daughter inherited this from the father. The condition had improved greatly under the administration of suprarenal extract. The marked respiratory and other symptoms had disappeared, and the pigmentation had cleared up at least two-thirds. She was much concerned about the condition of the skin and was very much afraid that she might have the same condition as her father. He asked the Society for a diagnosis. Because the mixed treatment did not clear it up she was placed upon arsenic. This has been on her forehead since one year ago last summer and she states that she has been taking arsenic for six years. She has had one child, a seven months' child. She had never been pregnant before.

Dr. Cabot remembered the father well and, in connection with this, thought it made a very interesting series of cases. Dr. Lusk thought the condition started as a sunburn and pigmentation commenced with the giving of arsenic and the uterine derangement during child-bearing period. He did not think it had any connection with syphilis or anything else. Dr. Brown thought that it was a case of ordinary chloasma due to pregnancy. The Chairman remembered well the case of the father, presented by Dr. Cocks, and he was one of those who thought, at the time, that the pigmentation was due to arsenic which, in this case, he would exclude. He did not ever remember seeing a case of pigmentation following the taking of arsenic confined to the face. He thought the pigmentation was due to uterine disturbances. Dr. Lapowski said that if it was uterine chloasma it would in time disappear although sometimes it increased. He believed that it should be left alone. Dr. Lusk said that he had obtained good results in uterine chloasma from the application of a eight- to ten-per-cent. solution of salicylic acid in alcohol until a decided pealing has occurred and then same emollient should be applied, such as cold cream. Dr. Brown said he could speak in favor of that treatment. Dr. Lapowski asked what they meant by saying they could remove chloasma by the use of salicylic acid; chloasma was so deeply situated that this drug could not remove it. Dr. Brown said that its application had produced a marked improvement, making it much paler. Relapses might occur. He had removed it in this way and has observed that it often remained away for months. The Chairman had had the same experience with salicylic acid as had Dr. Brown although he had not used with it alcohol but a $^1/_{20}$ solution of bichloride of mercury. He had never before seen a chloasma localized upon the forehead. Dr. Cocks said that in the winter the eruption went away but in the summer it returned. He would try the treatment advocated.

A Case for Diagnosis.—Dr. B. Lapowski presented Mrs. X., sixty years of age. She was born in Germany.

In her seventeenth year she suffered from an acute attack of rheumatism. A year later a scaly eruption appeared on her body; the local physician called it "Flechte." The knees, elbows, face and scalp were mostly affected; the body was involved to a lesser degree. After several months it disappeared under local treatment leaving here and there small scaly papules, which were always present in various locations since the first outbreak. When twenty-six years old she married. She has never been pregnant. Thirteen years ago the scalp, ear, face and body were affected with an eruption which the patient said looked like the former disease. The elbow and knees were at that time only slightly affected. Nine years ago he saw the patient and then diagnosed the disease as psoriasis. Eighteen months ago the patient came to him with her present eruption which at that time occupied the external regions of both buttocks, the left one being affected to a larger degree, and extensor surfaces of both forearms. At present the eruption is localized on the same places, occupying larger areas, palm-sized patches on the buttocks and longitudinal patches on the forearms. Below the knees and around the wrists one can see freshly developed papules. These were of pea-size with a red border with several white scales in the center. The papule looks like a drop of cement on the skin, surrounded by a red halo. The large patches on the buttocks consisted of an agglomeration of such papules in one patch; the individual papules cannot be seen any more. The patch consisted of white, cigarette-paper-like scales which cannot be easily removed from the skin. On forcible removal a white thin scale is removed, leaving a slightly reddened surface, smooth and dry. Some of the scales were surrounded by a red border, painful to the touch and, on such places, the scales are more adherent, of a dark-brownish color. The whole patch was slightly raised above the surface, the scales had free borders but are firmly adherent in the center. Few red scaly psoriatic papules may be seen on the upper extremities. The patient had suffered during the past few months with severe pains in the lower extremities and locally when touched. There is neither anesthesia nor hyperesthesia of the skin. The urine was free from albumin and sugar, but contains a large amount of uric acid and vaginal cells.

Dr. Lusk did not know what it was. Dr. Cocks thought it was a case of lupus erythematosus. He had no doubt but that it was a case of psoriasis when Dr. Lapowski saw her; it seemed to him that the scars were typical. Although the doctor had stated that, when the scales were removed there were no ulcerations found, still he thought the same condition might be in lupus erythematosus.

Dr. Brown agreed with Dr. Lusk as also did the Chairman. Dr. Lapowski did not agree with these gentlemen; he could not regard it as lupus erythematosus; in the later condition the scales looked different with their glandular prolongations. The atrophic places of lupus erythematosus were usually lower than the surface of the skin, while in this instance they were raised and rather painful. He was inclined to regard it as a case belonging to the class of dermatitis atrophicus (Pellizzali).

Printed Instructions to Those Suffering from Syphilis, Gonorrhea or "Clap."—Dr. John Cabot said that after an experience of some years in dispensary work he had come to the conclusion that such patients were not properly instructed in certain diseases; that they did not understand how to protect themselves and others when they were the subjects of syphilis or gonorrhea particularly. Four years ago he read a paper on this subject and since then he had had prepared for use in the Presbyterian Hospital Dispensary printed directions for such patients. This gives them an idea of the diseases and helps in gaining control over them.

The Chairman thought that this was rather a timely idea. In Berlin it had been in use for a long time.

Enlarged Prostate: Prostatectomy.—Dr. Henry H. Morton, of Brooklyn, gave the history of Francis B., aged seventy-four years, an engineer by occupation, who had always been well and strong except for an attack of dysentery when nineteen years old. He had an inguinal hernia for 15 years. He had gonorrhea 50 years ago. He never had a stricture. One year ago he began to have difficulty in passing water, which grew steadily worse. Two days ago he had complete retention of urine which was unrelieved until the catheter was passed and 64 ounces of urine withdrawn, some being left in the bladder. Examination per rectum showed a large soft prostate as big as a lemon.

On Oct. 20, 1902, prostatectomy was performed according to the method of Bryson, of St. Louis. There was some tenderness for three or four days after the operation, but little temperature, and a good pulse. The bladder was drained with a tube for one week. The urine contained a good deal of blood. On Nov. 5 the patient was up and walking about the yard. On Nov. 10 he could hold his water for three hours at a time. On this date the perineal wound was still open. The patient was not a stout man.

BOOK REVIEWS.

THE DISEASES OF INFANCY AND CHILDHOOD. Designed for the Use of Students and Practitioners of Medicine. By HENRY KOPLIK, M.D., Attending Physician to the Mount Sinai Hospital; formerly Attending Physician to the Good Samaritan Dispensary, New York; Ex-President of the American Pediatric Society; member of the Association of American Physicians and of the New York Academy of Medicine. Lea Brothers & Co., New York and Philadelphia.

THE study of the child is one that has received remarkable impetus during the past decade or so. Pedagogy, child psychology and even child criminology have all been made subjects of serious research and a realization of the value of such work to humanity is rapidly becoming general. Pediatrics has shared in the wave of progress and recent years have been unusually fruitful in their additions to this department of medicine. The literature of the subject has flourished accordingly and there has been need of a new book to unify the disseminated contributions which have emanated from the *Kulturvölker* in general and which therefore have been accessible only in their original languages.

It has been the object of the author of the present volume to meet just this demand and he has provided what is practically a digest of the best writings of American, English, German, French and Italian pediatric science. The index of authors cited comprises the most prominent pediatrists of all countries and ample bibliographies appended to each section refer to the originals of the papers quoted. Considered from this standpoint alone, therefore, the book merits the gratitude of all who ever have occasion to use such material, but this is but the least important aspect of the work. The author's personal views and the results of his own wide experience are given *in extenso* throughout, and the opinions of others are critically considered with unfailing good sense.

Infant feeding receives a thoughtful chapter in which various systems of modification are described and in addition to the usual arguments in favor of nursing rather than artificial feeding attention is called to the

probable antitoxic and protective bodies contained in mother's milk. The question of the possibility of the voluntary modification of mother's milk by diet, etc., is considered still *sub judice*. Menstruation is said to have no appreciable effect and nursing may be allowed up to the third month of pregnancy, though both the milk and the baby should be kept under observation. A statement that will no doubt find opponents is that the natural secretions will keep the mouth of the breast-fed child clean and that it should not be washed until the eruption of the teeth has begun. The value of gastric lavage and of Kemp's irrigations is emphasized by the author. He differs from many clinicians in advocating the recumbent instead of the sitting posture for performing the former maneuver and in feeding older children by gavage he advises that the tube be passed through the mouth and not the nostril.

An important section is that devoted to the septic infection of the newborn. The facility with which infection can be introduced into the feebly resisting infant organism is explained by the lack of the adult body's phagocytic faculties and the vulnerability of the skin and mucous membranes, while the deficient reactive powers render treatment difficult and make painstaking prophylaxis of the utmost importance. The discussion of the exanthemata is excellent, though a book for students, and even for practitioners, might advantageously have a comparative table or two presenting periods of incubation, invasion, etc., and a few deadly parallels for assistance in differential diagnosis. The pathognomonic sign of measles, to which the author's name is attached, is clearly described and illustrated in color.

The fact that typhoid is commoner in infants than is usually believed is evidenced by the statistics of the author and others, and the value of the Widal reaction is shown to be especially great in children in whom there are so many other causes for splenic tumor, temperature, rash, etc. The Ehrlich reaction is considered confirmatory but not pathognomonic.

Other sections of especial interest are those on syphilis and diseases of the mouth, the latter of which contains several excellent illustrations of the true and false Hutchinson teeth. The chapter on appendicitis will be found very helpful and it is pointed out that McBurney's point is of less assistance in making a diagnosis in children than in adults. The importance of a rectal examination in all doubtful cases is also indicated.

The hematology of infancy and childhood is well portrayed and the fallacies likely to result from a too literal interpretation of blood counts in these patients noted. Lumbar puncture is given an especially full discussion and its diagnostic value rated highly while its therapeutic usefulness is held to be still unsettled.

Enough has been said to indicate in some measure the thoroughly modern character of the book and the soundness of all its teachings. The author has everywhere striven for a most commendable consciseness, which no doubt was necessary to keep the volume within the allotted bounds. At times, however, notably in the sections on treatment (*e.g.*, under the heading of Croup), one would wish that he had given a little more fully of his experience, but in most cases even this reproach has no bearing. The many full-page and other illustrations are well executed and the typographic work is of unusual excellence. Taken all in all the most prominent characteristic of the book is its practicability. Information bearing on all aspects of the subject is given, but in compact form, so as to be readily available for reference and application. It may truly be said of it that it "fills a long-felt want" and that "we wish for it the success it deserves."

CLINICAL PSYCHIATRY. A Text-Book for Students and Physicians. Abstracted and Adapted from the Sixth German Edition of Kraepelins "Lehrbuch der Psychiatrie." By A. Ross DEFENDORF, M.D., Lecturer in Psychiatry in Yale University. The Macmillan Company, New York.

KRAEPELIN has occupied the front rank among European alienists so long and his text-book been a standard for so many teachers and students that it is a pleasure to welcome it in its present English dress, cut down and remodeled though it be.

For a text-book very wisely and understandingly abstracted, it now is to be found in a safe, authentic and understandable form for the many students of psychiatry in this country.

For the specialist the original is necessary, although many a psychiatrist in this country never would read it, and hence this present adaptation is the more doubly welcome.

Of the translator's share we have nothing but the warmest praise. A sympathy for all those engaged in the thankless task of making high science understandable to busy clinicians engenders the highest praise for the results of the task as here shown.

All interested in psychiatry will be benefited by the reading of this very well gotten up book and we cordially extend it the hand of fellowship.

THE PUBLIC AND THE DOCTOR. By a Regular Physician. Published by Dr. B. E. HADRA, Dallas, Texas.

THIS little book contains in a short space a very succinct practical treatment of the relations of patients to their physician and of physicians to the general public. It is gotten up with the idea evidently that doctors should present it to some of the doubting Thomases whom they know to be especially liable to put faith in the charlatans and advertising specialists, rather than the regular practitioner. There is some excellent practical advice with regard to patent medicines and the various new schools, osteopathy, vitopathy, etc., besides an abundance of common sense as to family physicians, their selection and cognate subjects.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY. Edited by J. Mark Baldwin. Vol. II. 8vo, 892 pages. Illustrated. The Macmillan Company, New York.

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Dr. J. J. Reese. Sixth Edition. 8vo, 660 pages. P. Blakiston's Son & Co., Philadelphia.

THE AMERICAN TEXT-BOOK OF OBSTETRICS. Dr. R. C. Norris, Editor. Second Edition. 8vo, 2 vols., 600 pages. W. B. Saunders & Company, Philadelphia and London.

A TREATISE ON DISEASES OF THE EYE, NOSE, THROAT AND EAR. By Various Authors. Edited by Drs. W. C. Posey and Jonathan Wright. 8vo, 1,238 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

TRAITÉ DE MÉDECINE ET DE THERAPEUTIQUE. By Drs. P. Brouardel and A. Gilbert. Vol. X. Maladies des Nerfs Périphériques, Névroses, Maladies des Muscles, Par Drs. Pitres, Vaillard, Gilles de la Tourette, Gasne, Grasset, Rauzier, Triboulet, Lannois, Lamy, Sainton, Brissaud et Marinesco. 8vo, 872 pages. Illustrated. J. B. Bailliére et Fils, Paris.